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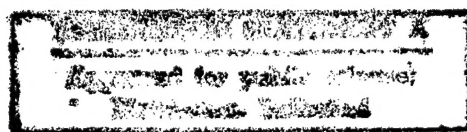
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# China Report

AGRICULTURE

No. 218



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3 August 1982

# CHINA REPORT

## AGRICULTURE

No. 218

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## I. GENERAL INFORMATION

### MANAGEMENT OF AGRICULTURAL SCIENTIFIC, TECHNICAL PERSONNEL STUDIED

Beijing KEYAN GUANLI [SCIENCE RESEARCH MANAGEMENT] in Chinese No 1, Jan 82  
pp 27-30

[Article by Zhu Xinmin [2612 2450 3046] of Anhui Agricultural College: "A Preliminary Study of the Management of Scientific and Technical Personnel in Agriculture"]

[Text] The success of agricultural science research generally depends on three factors: personnel, resources, and topics. Among these three factors, personnel has a decisive significance. Technical personnel in agriculture includes research personnel, teaching personnel, technology extension personnel, technical management personnel and technical workers. Their main duties are the research and application of agricultural science technology, the development of agricultural production and the promotion of agricultural modernization. In this article we present a preliminary analysis of the basic situation of agricultural technical personnel in Anhui, explore the main avenues and seek the basis for readjusting and managing the agricultural technical rank.

#### I. Labor Results of Agricultural Scientific and Technical Personnel

Technical personnel in agriculture are the pioneers of agricultural scientific knowledge, they engage in a creative effort that plays an active role in agricultural production development. Counting from the early 19th century when agricultural research institutes were first established, European and American capitalist countries have approximately 100 years of history in agricultural science research. Over the last century the development of agricultural science has always been closely related to the development of agricultural production. According to an analysis made by the Americans, agricultural production in the United States increased by 81 percent and production efficiency increased by 71 percent in the 1929-72 period. This is attributed to the promotion of agricultural research and technology. In China the gross value of agricultural production in 1978 was 2.4 times that of 1949, this increase is also closely related to the promotion of improved crop variety and advanced technique. According to statistics of the Chinese Academy of Agriculture, the planting of cross-bred rice and increased fertilizing increased the 1980 national rice production by 7.8 billion jin which is more than 1/2 of the total national increase in grain production.

In 1982 China patented the cross-bred rice and for the first time transferred agricultural technology overseas. China is now exporting to the United States and will be exporting rice to Italy, Brazil, Portugal and Spain to contribute to the world rice production. Anhui Province planted 1.82 million mu of cross-bred rice and production increases due to this practice alone was 270 million jin. In the future there will still be some population increase and farmland will decrease some; it will be more and more difficult to increase the production level and the role played by agricultural technical personnel in production development will be especially significant.

## II. Present Status Analysis of Technical Personnel in Agriculture

Anhui Province is an agricultural province with an agricultural population of 88.9 percent. Farm labor and other resources of Anhui are among the 10 highest of provinces in China and yet its production level is not among the 10 highest. Agricultural technical personnel in Anhui therefore have a difficult task to catch up with advanced levels in China and then proceed to achieve modernization. But the current status can be described as not too strong.

### Quantity Is Low

(1) Based on the 1978 general survey data, Anhui Province has 9,949 technical personnel in agriculture, this is 7th in the nation and its percentage of the total agricultural population in the province is 2.3/10,000. The national average in China is 3.6/10,000, in Japan it is 18/10,000 and in the United States it is 21/10,000. Comparatively, the ratio in Anhui is on the low side, and in terms of actual need it also appears to be inadequate. On the average each commune has only 3.4. If the 949 science research personnel were taken out, there would be 9,000 left. One-third of those are working in administrative departments of agriculture, forestry and population at provincial, regional or county level. Only 6,000, or two in each commune, are working at ward and commune agricultural technology stations. This situation cannot satisfy the actual need of technology promotion.

(2) There are 949 agricultural researchers in Anhui Province, or 0.23 per 10,000 agricultural population while the national average is 0.27/10,000. These people are distributed in over 100 research units at the provincial, regional and county level, less than 10 in each place. Separately, provincial institutes have about 19, regional institutes about 10 and county units have less than 5. Approximately two-thirds of these people are directly engaged in topical research and, according to the provincial institute of agricultural science, each topic has slightly over two researchers and some of them manage more than two research projects.

### Quality Not High Enough and Manpower Not Strong

(1) In terms of education, 60.8 percent of Anhui's science research personnel have college degrees, out of these less than 10 people have graduate degrees; 9.9 percent came from college-level technical schools and 29.3 percent

graduated from middle-level technical schools. Separately, 58.2 percent of people in provincial level institutes have college educations, for regions (municipalities) and counties the figures are respectively 65.2 percent and 59.6 percent.

(2) In terms of technical levels, the provincial institute of agriculture has 2.2 percent of its staff above the level 7, 11.5 percent between levels 8 and 10, 32.4 percent between levels 11 and 12 and the rest 18.7 percent are level 13. In regional (municipal) institutes of agriculture, 8.9 percent are level 9 and 10, 19 percent are levels 11 and 12 and 25.3 percent are at level 13. At the county level, 8.9 percent are of levels 11 and 12, 31.8 percent are of level 13. In Anhui there are very few senior personnel and most of them do not run projects.

(3) In terms of age, research personnel are on the old side and there is a continuity problem. The average staff age at the provincial institutes is 42.7 and 62.3 percent are older than 40. The average age at regional (municipal) institutes is 39.6 and 56.1 percent are over 40. At the county level the average is 37.4 and 43.1 percent are over 40. Principal researchers above the assistant level have mostly passed their best years (25 to 45 years old). Senior researchers in Anhui are older than 70 years, middle-level researchers are over 40 and their average age at the provincial institute of agriculture is 48.1 which is 20~30 years older than their foreign counterparts. The aging phenomenon is very serious.

(4) In terms of academic leadership, the aging phenomena and knowledge are relatively acute because of the 10 year turmoil. Authoritative academic leadership in research institutes, laboratories and groups has not yet completely taken form and project selection, design, implementation, consolidation and evaluation are in need of strong guidance.

(5) In terms of the basic function of science research, there were less than 40 independent agricultural research units in Anhui before the Cultural Revolution. Now there are over 100 and both the number of institutes and the number of researchers have doubled; more than half of the staff came from other units and departments, a few of them are graduates of the later period of the Cultural Revolution. Therefore, some of the staff lack actual experience in agricultural science experiments.

(6) In terms of personnel structure, there are a total of 3,389 staff and workers in Anhui's agricultural research units. The ratio of administrative cadres, technical cadres and workers is 1 : 2 : 4. In provincial institutes of agriculture the ratio is 1 : 3 : 4, in regional (municipal) institutes the ratio is 1 : 3 : 5 and in county institutes it is 1 : 2 : 5. The figures in Jiangsu Institute of Agriculture and Zhejiang Institute of Agriculture are respectively 1 : 5 : 4 and 1 : 4 : 5. In comparison, there are too many workers and not enough technical cadres. In terms of the speciality and field of the technical personnel, more than 90 percent are in crops, horticulture, sericulture, livestock, aquatic production, and plant protection, 91 percent are in provincial institutes of agriculture, and less

than 10 percent are in agricultural economics, mechanical engineering and foreign language. Almost 100 percent of the regional and country institutes are in agriculture. These percentages show that the structure of agricultural technical personnel is not favourable to interdisciplinary combination.

In short, Anhui Province has sizable ranks of agricultural technical personnel and they are relatively active in learning science and technology. If management can be improved to take advantage of the situation, the agricultural technical personnel in Anhui can play a major role in studying and promoting agricultural technology and developing agricultural production.

### III. Basic Ways To Improve Personnel Management

The heart of management improvement of agricultural technical personnel lies in the continuous improvement of ability, adjustment of structure and development of the initiative of the technical personnel so that they can be more effective in the process of production development and agricultural modernization. In a sense, the process of agricultural modernization is a process of arming the agricultural workers with science and technology and is also a process of intellectualization of agriculture workers. Quality of the workers is of key importance in improving the productive force in agriculture. Today China is still a country with many illiterates. The intellectualization of agricultural workers should be the whole society's concern and management and use of currently available technical personnel in of decided importance in the intellectualization of agricultural workers and the build-up of agricultural production. Below, we give our unconsidered opinions regarding the improvement of personnel management.

#### Actively Cultivate Technology Promotion Personnel

Agricultural research units below the provincial level are largely involved with the application and popularization of research results, these units should put more efforts into popularizing research. Provincial institutes of agriculture research should devote 20 percent or more of their efforts on promotion research and popularization activity, regional institutes should put in 50 percent or more and county bureaus should devote their full effort to popularization. At present, technical staff of provincial institutes and region and county bureaus are devoted almost entirely to applied research, about 40 percent of them are doing breeding research. This situation should be changed as soon as possible. Agriculture is under the constraint of nature, arbitrary uniformity over large regions is disadvantageous, the key to popularization is at the grassroot level, communes and brigades. If each brigade were to have an intermediate level technical staff the entire province will need 30,000. If each production team were to have a junior technical staff, the entire province will need 300,000. We can therefore see that training popularization workers and enlarging the technical promotion team is an important task in personnel management. To cultivate promotion personnel we need to open up the avenues for learning, in addition to current colleges and schools, villages should open agriculture middle schools, and research units at the provincial, regional and county

levels should also assume the duty of personnel training and serve agricultural production with their research results and personnel output.

### Improve the Quality of Research Personnel

Agricultural research in Anhui is primarily bringing in and describing research results, creativity is only secondary. Take seed breeding, for example. More than 40 percent of the effort in the province is devoted to breeding. While only 23.5 percent of the effort is in the use of the seed stock and the selection of promising improved varieties. Furthermore, the planting area is small and relatively few [varieties] are transferred to other provinces. To rectify this situation, the main thing is to improve the personnel quality in addition to improving management. The principal goals of personnel quality improvement are:

#### (1) Training of academic leaders

Academic leaders are creative and experienced people in the field who can lead a group of people conducting research and development. The average age of 168 intermediate researchers in the provincial institutes is 48.1 years, but the average age of the 50 project leaders of 54 research projects in 1978-79 is 45.3 and 50 percent of them are younger than 45, the youngest one being 34. Thus, it is better to train people younger than 45 as academic leaders.

#### (2) Training of core researchers

Core researchers should be able to complete assignments independently, organize topical research, design research plans and consolidate experimental work. These core researchers are now all above 40. A group of core researchers should be selected among people younger than 30 and trained to solve the continuity problem.

#### (3) Improving the fundamental course, experimental technique and foreign language ability of researchers

Because of the aftermath of the 10-year turmoil and the aging of intellectuals, everybody has a retraining and reeducation problem. Everyone should work and learn at the same time with the emphasis properly placed.

In the training and improvement of researchers, the function of currently available academic leaders and senior scientists in each unit and region in the province should be fully developed. There should also be a systematic plan to send people to other units, other provinces and even foreign countries to learn. This effort is of strategic importance and should be implemented systematically and vigorously.

### Adjust the structure of the technical rank

First of all, various academic disciplines should be in a proper proportion to facilitate in-depth and general research. In terms of agricultural



research units, personnel in basic science, applied mathematics, computer technology, economics, and interdisciplinary fields are now in short supply. We should properly increase personnel in these areas according to the situation in each unit and the percentage perhaps can be controlled at around 20 percent. Secondly, a more desirable pagoda-shaped structure should be formed through adjustment in the technical level (senior, intermediate, junior), work division (research, assistant, and support staff) and age (old, middle, and young). Thirdly, the ratio of administrative cadre, technical cadre and workers should also be appropriately adjusted. Turn laymen into experienced personnel by training, and gradually use machines to reduce the proportion of workers. The present ratio of 1:2:4 should be gradually transformed into 1:5:4, that is, for each management person, there is 1 researcher (or leader), 2 assistants (or core researcher), 2 support staff and 3 to 4 workers.

#### Thorough implementation of policy and rational use of personnel

Like other technical personnel, agricultural technical personnel is one part of the worker class and a reliable force of our party. In the past few years the central and local governments have adopted a series of policies regarding agricultural technical personnel which have had the intended effect on mobilizing the initiative of the technical personnel. But there are still some problems which need exploring.

(1) The socialist principle of pay according to work should be adhered to firmly. Today the tendency of average-ism still exists widely among the agricultural technical workers. For units and individuals with prominent achievements in science and technology, the socialist principle of material benefit is not properly realized. In the future, job responsibilities should be made specific, and technical personnel with outstanding achievements should be given timely recognition in terms of political honor, technical job title and work compensation. The same should be done to entire departments to encourage everyone diligently to study foreign languages and fundamental theories and reach for the high peaks of science by investigating and promoting science and technology.

(2) Persist in tailored training and using one's specialty. A research outfit should be a collection of various personnel with research ability. This group should include not only specialized personnel but also general personnel; not only professional personnel but also fundamental and technological talent; not only research staff but also management staff. After a certain basic level is reached, each type of personnel should avoid the use of people with only a layman's knowledge and pretending laymen are experts.

(3) Personnel flow problems. Personnel flow is conducive to personnel growth and science development. Personnel flow is an objective necessity, if the current job cannot make good use of a person's speciality, be it research, teaching, promotion or management, then transfer may solve the problem. Personnel circulation may be promoted in the following ways:



(a) Research institutes should have the right to transfer and hire people; (b) Organize large-scale research collaboration; (c) Invite people in and send people out for professional improvement; (d) Organize visits and academic exchange; and (e) Allow project managers to select assistants and support staff.

(4) Broaden the outlet for talents. The modernization of agriculture needs agricultural technical talents in large numbers, therefore, avenues should be broadly created for talents and only the talents. In addition to cultivating talents through various channels, self-educated youth should also be encouraged. The state should establish the necessary system whereby the self-educated can be examined or evaluated by state appointed units, and after they are hired they should be treated equally. In order to prevent restrictions on talent growth by state regulations, technical personnel and technical cadre may be counted separately and managed separately.

(5) Create a favorable research environment. In order to have a fully effective technical staff, equipment, facility and library material are necessary conditions. Japanese friends recently visited Anhui and their impression of our provincial institutes of agriculture was "nice space but no nice equipment." In recent years the operating expense per person is 2,000 yuan at provincial institutes, 1,500 yuan at regional bureaus and only 1,000 yuan at county bureaus. Take away wages and various sundry expenses, very little is left, and money for purchasing equipment and library material and research project funds are in relatively short supply. If this situation is not changed, it will lead to a waste of talents, and to change this situation we must do two things: one is to increase investment and the other is to cut expenses, increase revenue, maintain priority and invest sensibly.

(6) Establish evaluation and promotion system. The state already has regulations regarding the promotion of technical personnel, but to implement these regulations properly there should also be a system.

In view of the shortage of trained personnel in China and the need to speed up the process, evaluation may be carried out every year to accelerate personnel growth. The main items of the evaluation should include professional standards, foreign language levels, research and work abilities, research achievements and work results, and contribution to and economic effect of agricultural production developments. The mode of evaluation may be a combination of examination, work summary and result appraisal. After the evaluation, proper rewards should be given according to the standard, and promotion to a commensurate technical job title should be made by the academic committee.

#### FOOTNOTES

- (1). Jiang Jianping [5592 1696 1627], "Introduction to Agricultural Research System and Organization in Foreign Countries," "World Agriculture," First edition, Agricultural Press, May 1979.

- (2) "Fundamental Conditions of Chinese Agriculture, "First edition, Compiled by the Office of Agricultural Policy Studies, Agricultural Press, April 1980.
- (3) Li Chengquan [2621 2052 5425], Ding Chaochen [0002 6389 1057] of the Anhui Society of Crops, "Development Status and Future Prospects of Cross-breeding Rice in Anhui Province," "Suggestions by Science and Technology Workers," Vol 3, 1980, published by Anhui Association of Science and Technology.
- (4) Li Meisen [2621 2734 2773], "China's First Agricultural Technology Export," "World Agriculture," Vol 3, 1980.
- (5) Tan Zhongwei [3389 0022 4850], "Interviewing Theodore Schultz," "Science and Technology Report," Aug 1980.
- (6) Gu Jingqing [7357 6975 3237], "World Agricultural Technology of the 1970's, "First edition, Shanghai Science and Technology Press, May 1979.

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CSO: 4008/106

## BRIEFS

SUGAR PRODUCTION--Beijing, 25 Jun (XINHUA)--China produced 3.4 million tons of sugar in the 1981-1982 refining season which has just ended, according to the Ministry of Light Industry. This is 13.3 percent up on the previous refining season which was a record itself. Sugar output has registered an 89-percent increase since 1977. Cane sugar production went up 16.1 percent this year with an output of 2.74 million tons while beet sugar increased 3 percent. Support to peasants growing sugar cane in the form of higher purchasing prices and provision of grain were the main reasons for the increase. Chinese-made presses capable of refining 400,000 tons of sugar were installed this year, mainly in existing refineries. [Text] [Beijing XINHUA in English 1214 GMT 25 Jun 82 OW]

COTTON PURCHASE--Beijing, 25 Jun (XINHUA)--China's commercial departments purchased 2,875,000 tons of cotton by the end of May, an all-time high, according to a national conference that opened here today. The figure represents an increase of 200,000 tons over the 1980 purchase year. The 1981 domestic purchase year starts September 1981 and ends in August 1982. Purchase quotas were topped in the country's major cotton producing centers of Shandong, Jiangsu, Anhui, Hebei, Henan, Xinjiang, Liaoning, Hunan and Jiangxi. The increase helps provide more raw materials for the textile industry and reduces the need for cotton imports. [Text] [Beijing XINHUA in English 0707 GMT 25 Jun 82 OW]

CSO: 4020/148

ANHUI

BRIEFS

CHUXIAN PREFECTURE GRAIN--State purchasing of summer grain and oil-bearing crops has been overfulfilled in Anhui's Chuxian Prefecture. As of 4 July, 222 million jin of grain had been stored in granaries. The amount of purchased rapeseed was 233 million jin, an increase of 120 million jin over the same period last year. [OW250859 Hefei Anhui Provincial Service in Mandarin 1100 GMT 9 Jul 82 OW]

CSO: 4020/148

BEIJING

# YAO YILIN ON POTENTIAL OF NORTHERN PLAIN

OW011355 Beijing XINHUA Domestic Service in Chinese 1146 GMT 28 Jun 82

[Excerpts] Jina, 28 Jun (XINHUA)--How can we tap the North China Plain's agricultural potential? More than 350 experts, scientists, technicians and leading cadres in charge of agriculture in the departments, provinces and municipalities concerned exchanged their experiences at a symposium on the North China plain's agricultural development. They made many important suggestions on developing the North China Plain; tackling problems such as drought, floods, waterlogging, saline-alkali soil and wind blown sand in a comprehensive way; and comprehensively developing agriculture, forestry, animal husbandry, sideline production and fishery.

After the two symposiums on agricultural modernization in northeast and northwest China, this was yet another comprehensive agricultural symposium involving many branches of learning. This symposium was jointly sponsored by the China Society of Agronomy, the China Society of Hydraulic Engineering, the China Society of Forestry, Hebei, Shandong, Henan, Jiangsu, Anhui, Beijing and Tianjin. Yao Yilin, vice-premier of the State Council, and Wang Shoudao, vice chairman of the CPPCC National Committee, attended and addressed the symposium.

In his speech, Yao Yilin pointed out that tackling problems in a comprehensive way in developing the North China plains is an important part of the national plan for agricultural development. He said: In developing a plain like the North China plain, which involves many branches of learning, we should stress coordination between various branches of learning.

He hoped that the scholars and scientists attending the symposium, with the same aim in mind, would do a good job in conducting surveys and research, combine their study of natural science with their study of economics and come up with a plan for tackling problems in a comprehensive way in developing the North China Plain.

The North China Plain is the vast area south of the Great Wall, north of the Huaihe River and east of Taihang Mountain and the mountainous area in western Henan. It is the largest plain in our country which consists of the whole or

part of Hebei, Henan, Shandong, Anhui, Jiangsu, Beijing and Tianjin. Since nationwide liberation, the state has utilized large amounts of manpower and financial and material resources in tackling problems on the plain, thus developing agricultural production. However, the ecosystem here is still weak and the production level is rather low.

Economic theorists, natural scientists and technologists held that the North China Plain should make full use of its favorable conditions for developing cash crops and, at the same time, attach importance to grain production. In a word, effective measures should be taken to develop the plain into a marketable grain base by stressing agriculture--an area with the comprehensive development of agriculture, forestry, animal husbandry, sideline production and fishery, and an area producing cotton, oil-bearing crops, soybeans, fruits and livestock products.

The symposium was held in Jinan municipality from 18 to 27 June.

CSO: 4007/480

BEIJING

## BAI DONGCAI STRESSES PRODUCTION RESPONSIBILITY

OW061140 Beijing XINHUA Domestic Service in Chinese 0018 GMT 6 Jul 82

[Excerpts] Nanchang, 6 Jul (XINHUA)--Bai Dongcai, permanent secretary of the Jiangxi Provincial CCP Committee, speaking at a recent working conference of the committee, said: The appearance in the countryside of the various forms of production responsibility systems, especially the widespread emergence of the "double-contract" [shang bao 7175 0545] responsibility system, is a natural development that conforms to the trend of the time. Their appearance is reasonable and inevitable. It is impossible for anyone to wilfully impose a form of responsibility system on the masses or to deliberately ignore a form of responsibility system they have chosen.

Bai Dongcai said: It is nothing strange or new that the people's thinking and understanding lag behind the situation, particularly in a period of great change. However, the people's thinking and understanding should not be divorced from objective practice or deviate from it for a long time; otherwise, it will affect the normal development of the situation. We should sum up experiences and lessons in this regard, always remain vigilant and pay attention to correcting the lag in our thinking and understanding.

Bai Dongcai pointed out: The "double-contract" responsibility system has developed, taken root among the masses and displayed its strong vitality. However, some comrades still view it in a different light and refuse to accept it; some others say that it is necessary to "distinguish right from wrong, but we should do so by presenting facts and reasoning things out under the guidance of the line, principles and policies laid down since the 3d Plenary Session of the 11th CCP Central Committee and of the party Central Committee's important documents and according to objective reality in order to unify our understanding.

In his speech, Bai Dongcai answered three questions concerning the much discussed responsibility system of contracting for farm work on a household basis:

1. Has the collective economy become stronger or weaker since implementation of the responsibility system of contracting for farm work on a household basis? Have peasants contributed more or less to the state since then? Bai Dongcai said:

Since the adoption of the various forms of responsibility systems in Jiangxi Province in 1981, with contracting for farm work on a household basis as the main form, the fixed assets of the production teams have increased 8.5 percent. The amount of agricultural credits granted and repaid in a year is balanced for the first time in more than 10 years. The situation in grain purchases by the state and in the purchase of agricultural and sideline products is also better than before. Judging from all this, the collective economy has not become weaker but stronger, and the peasants contribute not less but more to the state.

2. Are some of the problems that are now cropping up in the countryside the inevitable outcome of implementing the "double contract" responsibility system? Bai Dongcai said: Since the 3d Plenary Session of the 11th CCP Central Committee, the situation in the countryside has become better and better, but there are still some problems indeed. The causes of these problems are mainly: the pernicious influence of Lin Biao and the "gang of four" has not yet been completely eliminated; there is the corrosive influence of capitalist ideas and feudal vestiges; and, while instituting the production responsibility system, we relaxed our efforts for some time to perform ideological and political work among the peasants, resulting in some old ideas and habits gaining ground among the peasants. Therefore, we should not blame the "double contract" responsibility system for the problems cropping up in the countryside.

3. Is it true that rural cadres at the grassroots level have failed to run their affairs and that their enthusiasm has dampened since adopting the "double contract" responsibility system? Bai Dongcai said: The overwhelming majority of rural cadres are good or relatively good. An important task at present is to educate cadres at the grassroots level and to enthusiastically help them improve themselves, enhance their political consciousness and learn to use correct work methods.

Bai Dongcai pointed out: In summing up, improving and stabilizing the responsibility system, the "leftist" influence is still the main obstacle today. Among some comrades who harbored "leftist" ideas in the past and became used to them, the "leftist" influence is deeprooted indeed; it is not easy for them to make a clean break with these "leftist" ideas and to completely cast them aside. These comrades should enhance their understanding through ideological education and by summing up experiences and lessons. While paying particular attention to overcoming the obstacle of "leftist" ideas, we of course should also prevent and overcome the mentality of being content with the existing state of affairs and not being eager to make progress so that we may keep on improving the established responsibility system.

CSO: 4007/480



'JINGJI GUANLI' ON BEIJING VEGETABLE PRODUCTION

HK210842 Beijing JINGJI GUANLI in Chinese No 6, 15 Jun 82 pp 24-26

[Report by Zheng Xiunan [6774 4423 3341] and Zhang Luxiong [1728 6424 7160]:  
 "How Does Beijing Municipality Manage Its Planned Production and Planned  
 Marketing of Vegetables?"--passages within slantlines denote boldface]

[Text] Since the 3d session of the 11th NCP, people's thinking has been greatly emancipated in reforming the systems of organization and diversifying economics, especially with the impetus of the different forms of production responsibility practiced in the countryside. There had been a dispute in Beijing municipality by the end of 1979 and at the beginning of 1980 over the question of how to make the production and marketing of vegetables diversified; someone suggested abandoning the state monopoly for purchase and marketing, and depending merely on market readjustment. The municipality had once thought of practicing several methods such as 20 percent of this and 80 percent of that, that is to say, the communes and brigades could keep 20 percent of the vegetables grown according to planned production for self-marketing and 80 percent could go to the state monopoly for purchase and marketing. When asking for the opinions of the peasants who grow vegetables, they said that they would not grow that extra 20 percent. Finally the municipality decided that before any effective methods proved to be feasible in practice, they would continue to practice the policy of state monopoly for purchase and marketing in the readjustment and reformation of the production and marketing work of vegetables. Owing to the present conditions, only by practicing the policy of state monopoly for purchase and marketing can vegetable supply be guaranteed, and the price of vegetables be kept stable. It has been proved by practice that this practice of Beijing municipality is successful. In 1980, there were 2.04 billion jin of vegetables on the market throughout the year. The sales volume throughout the year was 2.09 billion jin. Each person ate an average of 1.14 jin of vegetables every day. The monthly quantity on the market in the slack season was 2.01 billion jin in August, with each person consuming an average of 1.14 jin every day; and 1.08 billion jin in September, with each person consuming an average of 1.2 jin every day. In 1981 there were 2.08 billion jin of vegetables on market. The sales volume was close to 2.2 billion jin in 1981. Each person ate an average of 1.2 jin of vegetables every day. The monthly quantity on the market in the slack season was 1.07 billion jin in August, with each person

consuming an average of 1.12 jin every day; 200 million jin in September, with each person consuming an average of 1.39 jin every day. This not only assured the 5 million citizens of the capital an average of 1 jin of vegetables per person each day but also improved the supply in the slack season. The quantity on the market was fairly balanced. Varieties were increased, especially melons, fruits and beans. In August and September of 1980, the quantity of melons, fruits and beans that were on market made up 60 percent of the total quantity on market. According to the [words indistinct] has been quite satisfactory among large and medium-size cities throughout the country. According to statistics, from January to August last year, citizens of the nine [as published] cities of Beijing, Tianjin, Shanghai, Shenyang, Zhengzhou, Nanjing, Wuhan and Guangzhou ate an average of 7 or 8 liang of vegetables every day. In some places, people could only eat 2 to 3 liang of vegetables every day and the price was rather high. At the same time, people in Beijing ate an average of 8 1/2 liang of vegetables. In some cities even though the imported vegetables made up 10-30 percent of the total quantity of vegetables on the market, each person ate an average of 1 jin or less of vegetables. The major practices Beijing municipality implemented in the planned management of the production and supply of vegetables are:

1. /Upholding the principle of giving vegetables a primary place in agricultural production in the municipality's outskirts and handling well the relationship between vegetable production, industry and sideline industry./

Vegetables have always been the main nonstaple food in the people's livelihood of our country. They are an important component part of food for the urban citizens of our country, and are second only to grain in importance. In our country, each urban citizen consumes an average of about 1 jin of vegetables every day, which is equal to the amount of grain consumed. On one hand, the quantity of vegetables consumed is great, and on the other hand, they are fresh and difficult to store and transport. Owing to these two characteristics, vegetable production under the present conditions of our country must be carried out on the outskirts of cities. However, in recent years, the structure of agricultural production and composition of income in the near suburbs of Beijing municipality have undergone great changes. In the fifties and sixties, the near outskirts of Beijing municipality mainly grew grain and vegetables in their agricultural production. At that time, the income for growing vegetables was higher than growing grain. The main source of income for the peasants came from vegetables, therefore the enthusiasm for growing vegetables was fairly high. In the past few years, the industries and sideline industries of communes and brigades on the outskirts and rural areas of Beijing municipality have developed rapidly. Income from industry and sideline industry has become the main source of income for communes and brigades. The percentage of income from vegetables has decreased. Under this situation, if the system of planned management of vegetables is not implemented, peasants on the outskirts will devote their energy to the production of industry and sideline industry, which earn more. Because of this, it appears even more important to uphold the principle of giving vegetables a primary place in agricultural production near the municipality's outskirts. This is not only the need of the 5 million citizens

of the capital, but also a reliable guarantee for the basic profits of the 400,000 vegetable growing peasants in the municipality's outskirts. Relevant documents of the government of Beijing municipality clearly defined: "Agricultural production on the outskirts should give vegetables a primary place.... When there is a contradiction between vegetables, grain and industry and sideline industry, they should give way to the production of vegetables," "provide sufficient manpower for the production of vegetables.... All work in the vegetable districts of the outskirts, including the development of industry and sideline industry, should serve and promote the production of vegetables." It also defined that commune-run industry should be approved and sanctioned by the municipality; brigade-run industry should be approved and sanctioned by the commune. Each level should be strict with formalities of examination and approval, and at the same time, should make it an established policy to make use of the profit of industry and sideline industry to support the development of vegetable production. As a result, the industry and sideline industry of the outskirts of Beijing municipality have given strong support and effective promotion to the development of vegetable production, to the consolidation of collective economics and the increase in the income of the commune members. Advanced communes and brigades such as Yu Yuan Tan and Si Ji Qing have sprung up. They have promoted agriculture with the help of sideline industry. In 1980 and 1981, Si Ji Qing spent more than 5 million yuan on developing large plastic sheds and drilling wells.

2. /Firmly fixing the area for vegetable fields and making known to each level the growing plan and the marketing task./

1) In 1980 and 1981, Beijing municipality arranged the production and supply of vegetables on the principle of "planning production according to the quantity of consumption, on the principle of planting its feet in the city, and taking the near outskirts as the main production area," that is to say, instructive plans for the unified growing of vegetables and marketing tasks are assigned to communes and brigades on the basis of a population of 5 million people, and each person eats 1 jin of vegetables every day. That is to say, to play it safe, 5.5 million jin of vegetables should be produced daily.

2) Planning includes: area, varieties, crops for rotation, and the quantity for marketing. Area is divided into the total area and area for the main marketing varieties of crops for rotation. Marketing quantity is divided into the yearly quantity and the monthly marketing quantity. In August and September, during the slack season, the marketing quantity will be calculated in 10-day periods.

3) Every year, commercial departments send team members to communes and brigades to supervise and speed up the fulfillment of plans. Last year, more than 200 members were sent to stations in the vegetable brigades.

Beijing municipality's plan for growing vegetables is instructive, therefore, the area for vegetable fields was well settled. Basically there are five li of vegetable fields for each citizen, which is well cultivated and every inch of the field is fully employed. Every year after the municipality issues its plan, agricultural and commercial departments will consult with each other and sign contracts for production and marketing. This is a basic guarantee for vegetables.

3. /Practicing state monopoly of purchasing and marketing of vegetables through contracts, guaranteeing the fulfillment of plans and balanced marketing./ In 1980 and 1981, in the process of fulfilling the plan for the production and supply of vegetables, Beijing municipality has persisted in the system of two-level contracts, that is, the vegetable cooperative signs contracts of production and marketing with the production teams. Production teams sign production contracts with operation groups. Units of agricultural production have made five guarantees for the country. They are area, quantity, varieties, quality and the time of marketing. They have guaranteed not to sell commodity vegetables by themselves. The country will make unified purchase, and the purchasing price will be unified by the country. The country has made three guarantees for the vegetable peasants. They are purchase, price and grain ration. As for all the commodity vegetables grown according to the plan agreed on after the consultation of the agricultural and commercial departments, commercial departments should purchase whatever quantity the peasants grow, and they should not decline to purchase the surplus vegetables. Communes and brigades who insist on growing varieties that have already been overproduced should be criticized, and the matter should be dealt with by the commercial departments according to the terms in the contracts. The commercial departments should also give awards or punishment according to how well the vegetable communes and brigades fulfill their plans. In 1980, owing to the readjustment of relevant policies on vegetables, the marketing quantity reached as much as 370 million jin which overfulfilled the plan by 56.2 percent, breaking a record. As a result, 186 contractual production units on the near outskirts of Beijing municipality received awards. They made up 70 percent of the contractual production units. Production units violating the policy of state monopoly of purchase and marketing and the terms of the contracts, or selling commodity vegetables by themselves, did not only receive sharp criticism but will be fined as well. In 1981, from 16 September to 10 October, three brigades of a commune in Haidian District privately sold commodity vegetables 86 times in a month's time, totaling more than 10,000 jin in all. Departments concerned of the municipality and district demanded these three brigades pay a fine of 900 yuan to the Haidian district vegetable cooperative for breaking the contract, according to the terms of the privately-sold commodity vegetables in the vegetable contract between the agricultural and commercial departments, thus defending the solemnity of the contract.

4. /Implementing the system of responsibility of vegetable production, establishing the system of personal responsibility of cadres, and employing economic means to organize well the planned production and marketing of vegetables./ The vegetable-growing communes and brigades on the outskirts of Beijing municipality have widely practiced the system of responsibility of professional contract and payment according to united production on the basis of implementing effective methods of production and management. Quite a few communes and brigades have also set up the system of personal responsibility of cadres. Nan Yuan commune stipulated that part of the bonuses of all the commune cadres would be cut if the whole commune didn't fulfill the marketing task of vegetables.

part of the bonuses of brigade leaders and brigade party secretary would be cut if the brigade failed to fulfill the marketing task of the commodity vegetables. Last year, this commune overfulfilled their marketing task of commodity vegetables by 5 million jin.

Owing to the weather conditions in Beijing, there is some difficulty in production and supply of vegetables in the slack seasons of April, August and September, and the risk to be taken is rather big. For 2 years, in order to manage well the production and supply of vegetables in the slack season, the municipality offered appropriate material rewards, in addition to issuing certificates of merit, to communes and brigades which did well in fulfilling production and the marketing task in August and September. Each commune formulated quite a few methods to stimulate the masses' enthusiasm in production. Many communes and brigades took a part of the profits from industry and sideline industry to encourage the masses to handle well the production in the slack season. In order to meet the need of the citizens of the capital, quite a few communes adopted the method of material awards, encouraging each brigade to grow with initiative vegetables that are of low yield but which the citizens need.

5. /Improving the system of commercial management, creating more service centers and enlarging the capacity of storage./ Before 1980, vegetables and nonstaple food of the outskirts of Beijing municipality were under unified management. Because the management of vegetables is rather dirty, tiring and there is a certain degree of damaged, spoiled and lost vegetables in the job of managing nonstaple food, the status of managing vegetables is menial. In April 1980, eight districts of the city and the near outskirts established a vegetable cooperative, thus separating itself from nonstaple food management, and practiced independent management. They also had a contingent of well-organized, increased selling centers, and formed a leadership group. Last year 160 service centers based mainly on cooperation and collective economics were set up. Since 1979, the commercial departments have increased their storage capacity by 100,000 square metres.

6. /Strengthening the ideological leadership and political work of the work of vegetables./

In the past 2 years, the Beijing municipal CCP committee and the municipal government strengthened the leadership of production and marketing jobs of vegetables, and readjusted the leading group of vegetables of the municipality. The party secretary of the municipality served as the group leader and the assistant group leader. They also set up a municipal office for vegetables as a permanent organization of the municipal committee and the municipal government, which helped to harmonize the relationship between the agricultural and commercial departments. The No 2 Municipal Commercial Bureau set up a vegetable department. The municipal committee and municipal government placed the production and marketing jobs of vegetables on the agenda of importance. The municipality demanded the near outskirts to emphasize their own work in vegetable production. The municipality mainly examined the quality of

vegetable production when they checked the work of production of near outskirts. Beijing municipality and the various levels of the party organizations of communes and brigades producing vegetables have repeatedly carried out education for cadres and commune members in the cooperation between urban and rural areas, strengthening the worker-peasant alliance and growing vegetables for the four modernizations, and strengthened the cadres and the masses' understanding of the significance of doing well in the vegetable supply of the capital. They also advocated taking the interest of the whole into account, giving consideration to the interests of the country, the collective and the individual and handled well the relationship of the three. They also advocated doing a good job in the production of vegetables with a high sense of political responsibility, and taking the supply of vegetables for the capital, which were of large quantity and good quality, as the glorious task of the vegetable-growing peasants on the outskirts. As a result the thought of growing as many vegetables as possible and growing them well according to the country plan struck root in the people's hearts. At the thought of bearing responsibility for the party and the people, the mass of cadres at the grassroots have attached much importance to the planned production and marketing of vegetables.

7. /Upholding the direction of improvement, managing well the experimental centers in an active, safe and careful way and discovering experiences for making the market diversified in line with the local conditions./ Since last year, Beijing municipality, while persisting in putting the main emphasis on planned economics in the production and supply of vegetables, has also made experimental centers in the following three respects in seeking experiences for reforming the system of planned management of vegetables, first, united management between production and marketing departments, and united management between the production teams and the vegetable cooperatives. Second, self-production and self-marketing, that is the country has only to decree the area and the main varieties for growing. Production teams can sell the vegetables they produce. Third, expensive and low-yield vegetables should give way to popular vegetables, that is to say, an absolute guarantee should be provided for high-yield and popular vegetables, whereas the production of expensive and low-yield vegetables will depend on marketing conditions. Practice has proved that united management of production and marketing, self-production and self-marketing and low-yield, expensive vegetables giving way to high-yield, popular vegetables have certain advantages: the combination of production and marketing is favorable for production, improving management and administration and reducing waste and loss, thus improving the quality of vegetables. This has aroused the enthusiasm of the agricultural and commercial departments. Vegetable-growing peasants become concerned about the market; commercial departments care about production; in return, the relationship between the agricultural and commercial departments becomes closer.



In the process of Beijing municipality's persistence in the planned management of vegetables, there still exist some problems. They are mainly:

- 1) Disjointed production and marketing. The vegetable-growing peasants cared only about the quantity of vegetables but not the quality. They just grew vegetables without paying attention to market demands. As a result, the marketing of vegetables was unbalanced, and the varieties were not sufficient. In busy seasons vegetables were disposed of at low cost while in slack seasons vegetables had to be transported from somewhere else.
- 2) Because of the practice of united financial collection and expenditure by the commerce department, profits had to be delivered to the state, and all losses were to be compensated for. It turned out that the commercial department had no economic accounting system and they did not try hard to improve management and administration. The loss increased with each passing year and the burden borne by the country was getting heavier and heavier.
- 3) Service centers were few. The masses found it inconvenient to buy vegetables. These problems showed that the system of planned management of vegetables of Beijing municipality left room for improvement. The system of instructive plans should be reformed.

We thought that the advantages of Beijing municipality's persistence in the practice of planned management of vegetables did not lie in their persistence in the system of instructive planning, but in the fact that when reforming this system, they persevered in "full preparation for any new methods, and only after experimentation would they be carried out, and the pace of reformation must be steady." Beijing municipality's practice of steady reformation has had universal significance.

CSO: 4007/480

BEIJING

'RENMIN RIBAO' VIEWS COUNTRY'S RUBBER PRODUCTION

OW051243 Beijing XINHUA in English 1226 GMT 5 Jul 82

[Text] Beijing, 5 Jul (XINHUA)--All of China's rubber growing areas are located north of the 17th parallel, where the planting of rubber was traditionally considered impossible, according to today's PEOPLE'S DAILY.

Rubber plantations have even been set up in areas as far north as the 25th parallel, in the Guangxi Zhuang Autonomous Region and Fujian Province, the paper said.

The country's natural rubber growing area now comes to 420,000 hectares, ranking fourth in the world, it said. Rubber plantations produced 128,000 tons of rubber in 1981, making China the world's sixth largest producer. This figure represents a 13.3 percent increase over 1980, the paper said.

Of the total rubber growing area, it said, state-owned plantations cover 354,000 hectares, and plantations owned by collective units cover 66,000 hectares.

Under a decision of the Central Committee of the Chinese Communist Party in [word indistinct] the paper said, workers began building rubber plantations on Leizhou Peninsula and Hainan Island in Guangdong Province. The effort was aimed at changing China's dependence on imports for this important industrial and strategic raw material.

Hainan Island north of the 18th parallel and Xishuang Banna Prefecture north of the 22d parallel in Yunnan Province are now China's two major natural rubber producing centers. They combine to produce more than 80,000 tons of rubber a year, the paper said.

Over the past three decades, Chinese technicians and workers have acquired techniques for planting rubber north of traditional rubber-producing tropical zones, according to the PEOPLE'S DAILY. They have planted windbreaks to protect rubber trees from typhoons, terraced mountain slopes, adopted fine rubber strains and interplanted rubber trees with legumes to prevent erosion.

In an accompanying commentary, the PEOPLE'S DAILY paid tribute to Chinese rubber plantation workers and technicians for their achievement and called for learning from them their spirit of self-reliance, hard work and scientific attitude.

CSO: 4020/148



BEIJING

BRIEFS

TYPHOON WARNING--The central meteorological station issued an emergency typhoon warning at 1800 [1000 GMT] on 16 July. At 1700 [0900 GMT] this afternoon, the center of this year's typhoon No 8 was located about 350 km east of China's Hainan Island at 19.2 degrees north latitude and 114.4 degrees east longitude. At present the typhoon has picked up speed while maximum winds near the center of the typhoon have weakened to wind force 8 to 9. The center of the typhoon is expected to move west by north at a speed of 30 to 35 km per hour and to gradually approach the coastal areas in the western part of Guangdong and Hainan Island. It is also expected to land on the coastal area between Taishan and Wenchang any time from tonight until tomorrow morning. Under the influence of the typhoon, the seas in the northern and central parts of the South China Sea, the coastal areas in the western and central parts of Guangdong and the coastal areas of Hainan Island will experience winds of force 6 to 8 from tonight to tomorrow morning. Heavy and torrential rains will hit the western part of Guangdong, Hainan Island and the eastern part of Guangxi. At sea and in areas near the path of the typhoon center, strong winds of force 8 to 9 and heavy and torrential rains are expected. Units concerned, please listen to the weather forecasts of local meteorological stations. [Text] [OW161930 Beijing Domestic Service in Mandarin 1200 GMT 16 Jul 82]

CSO: 4007/480

GANSU

BRIEFS

DANGCHANG LANDSLIDE--A serious mountain landslide occurred at (Zhengqiao) brigade in (Guancheng) commune of Dangchang County on the afternoon of 7 July. The river was blocked. The landslide caused a pileup measuring 40 meters high and 30 meters wide. [sentence indistinct]. Traffic and communications were severed, posing a serious threat to the life and property of the people on the upper and lower reaches of the river. After realizing the situation, the provincial CCP committee and the government immediately held an emergency meeting to study the case and sent a work group led by deputy governor Zhangjiangang and composed of responsible persons of the provincial water conservancy department, the provincial post and telecommunications bureau and engineers and technicians to the landslide scene on the morning of July [as printed] to direct the relief work and deal with the emergency. The Lanzhou PLA units also dispatched engineering corps members to the scene to deal with emergency on the same night. [Text] [SK100719 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 9 Jul 82]

CSO: 4007/480

PROVINCE IMPROVES OUTPUT OF LOW-YIELD CROPLAND

OW280850 Beijing XINHUA in English, 28 Jun (XINHUA)--Over the past two years, 242,000 hectares of low-yield cropland in Guangdong Province has been improved, resulting in increased output of 0.6 to 0.75 tons of grain per hectare, according to today's PEOPLE'S DAILY.

The paper notes that Guangdong has about 800,000 hectares of low-yield paddy fields, accounting for more than 30 percent of the province's total rice hecterage.

Since the winter of 1979, 29,500 water conservancy projects have been built. These include culverts, aqueducts, reservoirs, diversion works and pumping stations. Irrigation or drainage has been improved on 48,600 hectares of land. Soil has been upgraded on 52,000 hectares with addition of manure. Cowsheds, chicken coops and pig pens have been built near the fields and trees planted extensively to check erosion.

In the course of transforming the low-yield paddy fields, the paper says, peasants have rearranged crop patterns and are now trying to match crops with soil fertility.

In Shaoguan Prefecture, 13,000 low-yield hectares were improved in 1979, another 19,000 in 1980 and 21,000 in 1981, the paper says.

In a frontpage editorial, the PEOPLE'S DAILY opines that there is still great potential for increasing farm yields in China by improving low- or relatively low-yield crop land.

Speeding the pace of agricultural development is an urgent task of the Chinese people. The socialist modernization program requires more farm produce, primarily food grains, the editorial says. However, since there is not much more arable or reclaimable land in China, the potential for expanding the land now cultivated to grow more cereals, cotton and other crops is very limited, the editorial continues.

So the main direction for increasing the country's farm output is rational use of the existing cultivated land to raise per-hectare yield. If output of grain on China's some 40 million hectares of low-yield farmland can be raised by 400 to 750 kilograms per hectare, it will be quite remarkable, the editorial says.

The PEOPLE'S DAILY also notes that China has limited financial resources and investment in agriculture cannot increase rapidly in the near future. So land improvement must depend on the self-reliance of the peasants and small improvement projects should be encouraged, the paper says.

CSO: 4020/148

BRIEFS

HAINAN PREFECTURE AQUATIC OUTPUT--Hainan Li and Miao nationalities autonomous prefecture raised its total output of aquatic products in the first half of 1982 to 8,106 tons, which constituted a 16.72-percent increase over the same period in 1981. This was achieved because the prefecture strengthened leadership over aquatic production. [HK210143 Haikou Hainan Island Service in Mandarin 0330 GMT 20 Jul 82 HK]

TYPHOON NEAR HAIKANG COUNTY--The central meteorological station released a typhoon bulletin at 1800 [1000 GMT] on 17 July. At 1300 the center of this year's typhoon No 8 landed in the vicinity of Haikang County, Guangdong Province. Maximum winds at the center of the typhoon were of wind force 8 to 10. At 1700 today, the center of the typhoon had moved to Suixi County. The center of the typhoon is expected to move west by northwest at a speed of 20 km per hour, hit the sea in the northern part of Beibu Bay, land once again in the coastal area in the southern part of Guangxi Province and gradually turn into a depression. Under the influence of the typhoon, the western part of Guangdong, the coastal areas of Hainan Island, the coastal areas of Guangxi and the waters in Beibu Bay will experience winds of force 6 to 7 from today until tomorrow. The western part of Guangdong and Hainan Island and Guangxi will be hit by heavy and torrential rains. At sea and in areas near the path of the typhoon center, strong winds of force 8 and heavy and torrential rains are expected. Units concerned: for further information on the movement of the typhoon, please listen to the weather forecasts of local meteorological stations. [Text] [OW172110 Beijing Domestic Service in Mandarin 1200 GMT 17 Jul 82]

PROCUREMENT WORK--The total value of procured agricultural and sideline products in Guangdong Province from January to May this year reached 1.712 billion yuan, which was 12.3 percent more than in the corresponding period of last year. The quantity of products of the first and second categories, including grain, edible oil, sugarcane, pigs, aquatic products, jute, bluish dogbane and cassia bark, procured in this period was greater than in the corresponding period of last year. [Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 3 Jul 82 HK]

CSO: 4007/480

BRIEFS

QUANZHOU COUNTY WHEAT PRODUCTION--Quanzhou County has reaped a bumper wheat harvest this year. The county cultivated wheat on some 46,000 mu, with total output reaching some 7.525 million jin and an average per-mu yield was 162 jin. Its total output and per-mu yield exceeded the previous highest-recorded levels. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 24 Jun 82 HK]

BAISE PREFECTURE RICE TRANSPLANTING--By 25 June, Baise Prefecture had transplanted mid-season rice over some 357,000 mu, which accounts for 81 percent of its quota for cultivating mid-season rice. Some counties and communes in the prefecture have overfulfilled their quotas for cultivating mid-season rice and are now tending their mid-season rice. The whole prefecture has weeded some 96,000 mu of fields and applied manure on some 54,000 mu. It recently rained in Jingxi County. Leading members of the county CCP committee and the county people's government immediately went deep into communes and brigades to mobilize the masses to crash-transplant mid-season rice. The county has planned to cultivate mid-season rice on some 44,000 mu but has actually transplanted it in some 48,000 mu, overfulfilling its quota. [Nanning Guangxi Regional Service in Mandarin 1100 GMT 1 Jul 82 HK]

CSO: 4007/480

'RENMIN RIBAO' INVESTIGATES RURAL AREAS

HK122346 Beijing RENMIN RIBAO in Chinese 6 Jul 82 p 2

[Report on a visit to rural Guizhou by RENMIN RIBAO reporters Yao Liwen [1202 0500 2429] and Xu Xili [6079 6007 6068]: "New Starting-Point of a 'Thoroughfare'"]

[Text] In the wake of the changes in the production management system, a number of areas in rural Guizhou where production conditions and the work basis are relatively good have started to practice a new production guidance system, in which the agricultural science and technology departments provide guidance, the agrosience households are the backbone force, and the peasant households undertaking responsibility contracts are the foundation. Proceeding from the actual conditions of the province, the Guizhou Provincial CCP Committee has put forward a notion of embarking on a path of "undertaking responsibilities," "engaging in several trades simultaneously," "specialization" and "joint undertakings." At present the great majority of the peasant households are in the stage of "engaging in several trades simultaneously." The changes in rural Guizhou have tested people's thinking. Certain traditional concepts long held to be correct have been broken down, and the minds of the cadres and masses have been further emancipated.

In selecting the responsibility system of assigning the land to the peasants in return for fixed levies, the Guizhou peasants were at the start in a hurry to extricate themselves from their difficulties in "everyone eating out of a big pot" and to solve their problems of adequate food and clothing. At the time some people were worried that the Guizhou peasants would thus be advancing along a "single-plank bridge," which would be very dangerous. However, in the wake of the development of practice, people have gradually acquired the new realization that assigning the land to the households in exchange for fixed levies is not only an effective way to solve the problems of adequate food and clothing but is also the new starting-point of a new path for developing agriculture in the mountain areas: it is a new starting-point at a socialist "thoroughfare."

## A New Production Guidance System Takes Shape

In the wake of the changes in the production management system, there have been very great changes in the status of the peasants in production, their enthusiasm for production is very high, and they have urgently demanded to learn and apply science. A "craze for fine-strain seed" was the first thing to emerge. Thousands of "fine-strain seed fans" suddenly appeared. They climbed mountains and crossed ranges to visit relatives and friends and go around everywhere exchanging fine-strain seeds. Last year Tang Maochong of Yanjiaozhai production team in Huali district of Kaili County planted 1.7 mu of fine-strain rice and achieved a yield of 1,300 jin per mu despite serious drought. On the day the crop was reaped and threshed, 50 or 60 peasants were waiting in the fields to exchange fine-strain seed with him. As the masses attach importance to fine-strain seed, there has been a rapid increase in the province's area sown to such seed. Every time a new seed is introduced, a whole set of new technology comes along with it, and many of the peasants are avid to learn it. The "craze for fine-strain seed" has also caused a "craze for science." In the past when the peasants sowed, they just looked to see whether the trees were growing new leaves, and worked hard to apply manure and water in an indiscriminate way; now they keep a careful watch on the weather forecasts when they sow, and apply manure according to the soil's acidity or alkalinity. Households that till the land scientifically--agrosience households--have shot up everywhere like spring bamboo shoots after rain.

Clearly seeing the trend of learning and applying science among the peasants, a number of leading party and government cadres have placed leadership over science and technology work in an important position on their agenda, with the result that agricultural scientific and technological activities have started to enter a new stage, with organization and leadership. Certain places with relatively good production conditions and work basis have started to change their old habits of simply relying on administrative organization and methods to hasten sowing and reaping; a production guidance system in which the agricultural science and technology departments provide guidance, the agrosience households are the backbone forces and the peasant households undertaking responsibility contracts are the foundation has taken initial shape, and a new situation has started to emerge with "villages watching each other, households watching each other, and the peasants watching the agrosience households." Many production team leaders themselves head agrosience households. They have gradually learned how to set an example by their own scientific cultivation, to guide and stimulate production in their production teams. Last year the Southwest Guizhou Autonomous Prefecture developed 5,065 agrosience households and, using these households as a link, organized a new mass agricultural science and technology popularization network, with the result that advanced techniques in selection and use of fine-strain seed, cultivation of sturdy rice seedlings, rational close planting, scientific management, and the prevention and treatment of plant diseases and insect pests were rapidly popularized. Last year 410,000 mu of the prefecture's 800,000 mu of rice took part in technical cooperation and bumper output emulation, and total rice output was 12 percent higher than in 1980, thus breaking a stagnancy that had lasted 25 years. By the end of May, the whole province had developed



130,000 agrosience households organization and leadership. These households accept new techniques from the science and technology departments and undertake responsibility contracts for scientific experiments on the one hand, and pass on modern agricultural knowledge to the surrounding masses on the other. Large numbers of "native experts" and "field scholars" have played demonstration, stimulation and organization roles in this new production guidance system. Some of them have scored high grain yields, while others have pioneered new roads in diversification. Science and technology has turned into practical productive force as a result of application and popularization by these households. Their fruits and experiences have also directly attracted tens of thousands of the peasants masses.

This new tide of studying and applying science is promoting changes in the cadres' work methods and style. Many leading party and government cadres profoundly feel that unless they study science or understand technology, it is hard for them to continue guiding rural work. They are, therefore, exerting themselves to gradually change from the old stuff of "grasping the fundamental thing and the key link (class struggle)" and "criticize, struggle against, and fine people" to a path of centering their work on economic construction and focusing it on popularizing science and technology. Miaotang commune in Meitan county suffered great drought last year, and rice output declined. But the agrosience household of Chen Qinglu on Xiaowan production team reaped a good average yield of 1,600 jin per mu from its 6.1 mu (traditional mu) of paddy land. Commune CCP committee secretary Hu Xianrong came to the Chen household to pay his respects and ask to be taught; Chen Qinglu spoke on his entire experiences in scientific cultivation. Hu Xianrong was greatly enlightened. He understood that after the production responsibility systems had been in the main perfected, the most important thing in rural work was to study and apply science. The commune CCP committee then conducted a relatively deepgoing and systematic investigation on how the commune should study and apply science, and also formulated practical plans for this. The commune party committee has attached importance to bringing into play the role of village talents like Chen Qinglu, and has also helped them to set up a commune peasants' science popularization association. Chen Qinglu and another old peasant have been elected deputy directors of this association. The association actively launches mass technical exchanges and consultations.

As the new production guidance system takes shape, the cadres' work style is being transformed. This is an excellent start in eliminating the influence of erroneous leftist ideology and running agriculture according to objective economic laws.

Follow the Path of Undertaking Responsibilities, Engaging in Several Trades Simultaneously, Specialization, and Joint Undertakings

What are the development trends of the responsibility system of assigning the land to the households in exchange for fixed quotas? How is the new path to be followed? Proceeding from the province's characteristics of low economic

standards and few commune and brigade enterprises, the provincial CCP committee has put forward the notion of embarking on the path of undertaking responsibilities, engaging in several trades simultaneously, specialization, and joint undertakings. At present the great majority of peasant households are in the stage of engaging in several trades simultaneously.

After the system of assigning the land to the households in exchange for fixed levies was instituted, division of labor appeared in the peasant households. First, the women were almost everywhere emancipated from tilling the land, and they now look after the cows, pigs, chickens and ducks and manage household affairs. The chief labor forces plunge into grain production during the busy seasons of summer crash-reaping and sowing and autumn reaping, plowing and sowing; at other times they engage in diversification and other industrial and sideline production, according to the characteristics of each household, and hand over the crop-tending work to auxiliary labor forces. In this way labor resources and natural resources have been further exploited and used, traditional handicrafts have rapidly revived and developed, and experts and craftsmen with traditional techniques and experiences in all kinds of trades have pioneered new roads in diversification. The great majority of peasant households are simultaneously engaged in one of two sideline occupations in addition to agriculture.

There are many advantages in having the households engaged in several trades simultaneously according to local conditions and the households: this system is beneficial for solving the problems of outlets for surplus labor and capital, and it has stimulated the peasants' enthusiasm for learning techniques and expanded the ranks of technicians in industrial and sideline production; the income of households simultaneously engaged in industry and sideline production in addition to agriculture is far greater than that of households that only undertake grain production; and since their economic income has increased notably, these households have provided capital for developing grain production, and so their grain output is also relatively high. On some communes and brigades where conditions are good, such households now account for 80 to 90 percent of the total number of households. According to statistics on 1,391 production teams in 80 counties, aside from grain, these teams made an average income of 52.1 yuan per person from animal husbandry last year, an increase of 15.1 percent over 1980; average income per person from industrial crops was 50.2 yuan, a rise of 61 percent; and average income per person from industrial and sideline production was 25.3 yuan, a rise of 22 percent. Income from grain accounted for only 37.2 percent of family income. The development trends in the pattern of peasant households engaged in several trades simultaneously and in the development of various rural trades are evident from this.

Guizhou has many people but not much land, and the dwellings are scattered. Even after further development of diversification and domestic sideline production, quite a large number of peasants would still demand to retain their responsibility fields for the sake of convenience in production and

livelihood. Hence, the trend for "the land to be gradually concentrated in the hands of expert farmers" is not very evident at the moment, and the practice of "engaging in several trades simultaneously" will persist for a relatively long time. However, key households specializing in industry have also emerged. According to an investigation in Ruqi District of Suiyang County, 30 percent of the labor force is engaged in paper-making, brick manufacture, construction, and other industrial and sideline production. Peasant Zhou Huren, whom we visited at Hedong production team of Hedong commune in Sinan County, is an educated jack of all trades. Last year he directed his wife in scientific pig-raising. He and his eldest son worked as bricklayers. Last year he sold 10 porkers to the state, and this year he has already sold 3 and plans to sell 20. He is preparing to raise a further 300 chickens in the second half of the year. Last year his family's total income from pig-raising and bricklaying was nearly 4,000 yuan. The cadres there said, the income of Zhou Huren's family last year was about the same as that of the entire production team in the past. Key households like that of Zhou Huren, with relatively high labor efficiency and sales to the state, are now emerging all over rural Guizhou. They are playing a considerable role in helping the masses learn specialized technology, opening up new production opportunities, and developing commodity economy.

"Joint undertakings" refer to joint undertakings in industry and sideline production. At present the majority of joint undertakings consist of male laborers engaged in occupations other than field cultivation, domestic animal raising and hand-weaving. During the slack farming season, some people combine to engage in processing agricultural and sideline products, some to make bricks and some to do construction work, according to the local conditions and their individual skills. This is voluntary and mutually beneficial. At present these joint undertakings are loose and temporary affairs. However, they have already demonstrated great vitality. Eighteen peasant households on Longan and Deshun communes in Liping County have, with great support from the credit cooperative, used the local bamboo resources to set up three processing areas for dried slices of tender bamboo shoots. In 2 weeks from the end of March to mid-April, they processed 98 dan of these items and made a net income of 14,520 yuan, 806 yuan per household. This method solves the problem of outlet for labor forces, increases income, and also provides export commodities for the state and increases foreign exchange. The whole province now has about 40,000 of this type of cooperative and joint undertaking organization.

A multilayered and diversified socialist agricultural economic structure is taking shape in Guizhou as a result of the emergence of the setup of undertaking responsibilities, engaging in several trades simultaneously, specialization, and joint undertakings. This setup depends on the peasants' voluntariness and economic mutual benefit, and is not something ordered by higher authority. It is aimed at exploiting natural and manpower resources and developing the rural economy, and so every step it develops, it makes the peasants richer and also provides more material wealth for the state. Economic combines of still higher level will spring up in the wake of the improvement of labor productivity and the development of division of labor.

### Traditional Concepts Are Being Broken Down

The tremendous changes in rural Guizhou constitute an all-round test for people's thinking. As a result of 3 years of practice, certain traditional concepts that were long held to be correct are being broken down, and people's minds have been further emancipated.

The theory of "permanent patterns" of the collective economy has already been broken down. This is the most notable ideological change among leaders at all levels, many cadres and the masses. When the rural areas started to institute the production responsibility systems, due to the influence of traditional concepts, certain comrades were still accustomed to encasing this new thing in the old pattern of "three-level ownership with the production team as the basis" and the old concepts this produced. They always held that assigning the land to the households in return for fixed levies was an expediency; they separated this system from the collective economy and set the one against the other, and set mobilizing the enthusiasm of each family and household for their own decisionmaking against bringing into play the superiority of the collective economy. These comrades had not anticipated the continual improvements and developments in the practice of the system of assigning the land to the household in exchange for fixed levies: at present this system is being put on an ever sounder basis in crop cultivation, while responsibility systems in forestry, animal husbandry, sideline production, fisheries and industry are also gradually being set up; and by instituting economic, technical and production and sales contracts, the superiority of unified management is being integrated with the peasants' enthusiasm for their own decisionmaking, and the peasant households undertaking responsibilities are being integrated with the collective and the state. Practice has proven that in Guizhou, assigning the land to the households in return for fixed levies is not a single-plank bridge; instead, it means embarking, after many twists and turns and paying a high price, on a thoroughfare for developing socialist rural economy that accords with the conditions of the province.

Certain methods applied in the past were often not focused on developing the productive force and raising labor productivity and commodity rate, or on improving the peasants' living standards on the basis of developing production; such methods were in fact "hitting at the rich and succouring the poor." This traditional concept, which formed over a long period under the influence of leftist ideology, did serious harm to agricultural production and the peasants' living standards. Now this traditional concept has been broken down, and a new mood of encouraging people to get rich through labor has started to take shape. In the past, higher authority onesidedly advocated "large in size and collective in nature," and an atmosphere of egalitarianism formed in the lower levels. If a production team became just a little affluent, it had to hurry to expand its accumulation, or engage in egalitarianism and transfer of resources; if a peasant household became just a little affluent, it was regarded as "new rich peasants" and "upstarts." As a result,

peasant activists with culture, technical knowledge and management skills were also subject to various kinds of restriction and attack; the situation was "the poor dare not think of getting rich and the rich dare not think of getting richer." After the policies were relaxed, "fear of polarization" continued to tightly bind people's minds like an invisible chain. In view of this, the Guizhou Provincial CCP Committee has repeatedly taught the cadres to draw clear distinctions between varying degrees of affluence on the basis of the public ownership system on the one hand and polarization under the private ownership system on the other. They must boldly support people who get rich through labor, and boldly support the peasants in developing commodity production. After 3 years of practice, the cadres at all levels have seen that the peasants as a whole hope that some of them will become rich before others. Over 70 percent of the previously poor households are no longer poor, and the majority of the remaining less than 30 percent have improved their living standards somewhat. No "polarization" has appeared. Summing up the lessons of history, many cadres hold that it is indeed necessary to support poor households in difficulties, but they must no longer go in for stuff such as "hitting at the rich and succouring the poor" and "leveling down and helping everyone." The varying degrees of affluence between households, caused by differences in strength of labor force and discrepancies in technical and managerial skills, are in accord with the objective law of development that some things always happen before others. Anyone who regards these varying degrees as "polarization" and wants to put a stop to it will, no matter what his objective ideas, inevitably interfere with the development of production and hamper the accomplishment of prosperity for all.

The Guizhou Provincial CCP Committee holds that strengthening the party's rural political and ideological work, perfecting the production responsibility systems in an all-round way, and protecting and developing the productive force are the current basic tasks in rural work. Most of the households that have become rich through labor have made relatively great progress in a certain specialization, and have taken tangible steps along the orientation of production specialization. This is something that should be vigorously supported. The provincial CCP committee has also called on the party committees at all levels to seriously grasp the work of supporting poor households.

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GUIZHOU

BRIEFS

PLANT DISEASES COMMENTARY--In the provincial hookup on 6 July, the Guizhou provincial broadcasting station broadcast a short commentary, "It is necessary to quickly eliminate plant diseases and insect pests in order to strive for a bumper agricultural harvest." The commentary pointed out that after transplanting seedlings, many places in the province had low temperatures and rainy weather for a relatively long time and this created some favorable conditions for plant diseases and insect pests. At present, the harm caused by plant diseases and insect pests in some places is fairly serious. The commentary demanded that they immediately go into action and eliminate plant diseases and insect pests. [Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 6 Jul 82 HK]

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# SERIOUS WHEAT APHID PROBLEM DISCUSSED

Shijiazhuang HEBEI RIBAO in Chinese 22 May 82 p 1

[Article: "Province's Serious Wheat Aphid Problem Must Be Quickly Eradicated, Provincial Agriculture Bureau Comrade-in-charge Points Out in Statement Made to Reporter"]

[Text] Yesterday a Provincial Agriculture Department comrade-in-charge emphasized, in a statement to the reporter about eradication of the wheat aphid problem, that wheat aphids are serious in Hebei province and that emergency mobilization must be done to bring them under control quickly in order to assure a bumper summer harvest.

The Provincial Agriculture Department comrade-in-charge said that the wheat aphid outbreak came early in Hebei Province this year and with great ferocity. It is a year of serious outbreak now at its peak. A survey done on 10 May in Fucheng County shows a sudden increase to 721 aphids per 100 plants. A recent survey in Linzhuang County showed 8,000 to 10,000 aphids per 100 plants, and large numbers of oily plants [3111 2701] have appeared. The infestation is much more serious than during the same period in 1981 when the maximum number of aphids per plant was 1,100 for the province as a whole. A survey conducted on 7 and 8 May by the Provincial Plant Protection Institute in Wangdongzhuang, and Xiangzhuang production brigades in suburban Baoding showed a plant aphid rate of 93 and 95 percent respectively. Numbers of aphids per plant were 1,891 and 2,539 respectively 4.9 to 7.3 times more than the number during the serious outbreak of 1980.

Wheat aphids pose a great threat to wheat. Survey data show that during the milk ripe stage of wheat, when the number of aphids average 10 to 20 per spike, the per thousand grain weight drops by from 5.5 to 7.4 percent. When the number of aphids average 40 to 60 per spike, the per thousand grain weight drops by 12.6 percent. For Hebei Province this year, this means that if the wheat aphids can be brought under control, about 10 to 20 percent of output can be saved and it will be possible to harvest an additional more than 1 billion several hundred million jin. Consequently, all levels of leaders must attach a high degree of importance to this matter, organize forces, act posthaste, and undertake control.

Methods used for the eradication of wheat aphids will require adaptation of general methods to local situations. In places where there are fairly large numbers of ladybugs, a natural enemy of aphids, where the ladybug ratio is

1:150 these natural enemies can be protected and used for natural control of aphids and there is no need to use pesticides for control. Where the numbers of ladybugs relative to aphids are inadequate, the spraying of phosphate in wheatfields may be combined with use of a 40 parts per hundred dimethoate emulsion for control. Wheat harvest time will soon be here so use of pesticides of severe toxicity or high residual toxicity is prohibited so as not to pollute the wheat producing man-made damage. Late season wheat care should also be intensified at the same time to increase the wheat's own resistance and reduce pest damage.

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TIPS GIVEN ON ORGANIZING FOR BUSY SUMMER SEASON

Shijiazhuang HEBEI RIBAO in Chinese 28 May 82 p 1

[Article by Commune Department, Provincial Rural Work Department: "Make Full Use of the Power of Responsibility Systems for Timely Completion of the "Three Summer Jobs"]

[Text] The grain in ear period [around 6 June] will soon be here and the very busy season is about to arrive. The people throughout the province have mobilized to make the most of the power of responsibility systems in resolutely fighting the production battle of the "three summer jobs" for timely completion of summer harvesting, summer planting, and summer field care. This is of extremely great importance in realizing plans for increased output for the year as a whole and for further development of the very fine situation in the province.

During the year, accompanying implementation of the "Summary of the Minutes of the National Conference on Rural Work," in every jurisdiction in Hebei Province the fundamental policies and requirements of "one resistance," two unchanges" and "three considerations" have further permeated people's minds; various forms of responsibility systems have been further consolidated and perfected; the enthusiasm for production of the broad masses of cadres and people has reached unprecedented heights; great achievements have been won in the "one resistance and two guarantees," and the rural situation is very encouraging. However, we must realize that the task of fulfilling this year's grain, cotton, and oil-bearing crop plans for increased production in Hebei province is a rather strenuous one. In the case of grain, for example, inasmuch as the grain growing area has been reduced by 3 million mu from previous years, and particularly because of the seriousness of the present drought, there will have to be a substantial increase in this autumn's grain yields per unit of area, and in total output as well, if plans for increased grain output for the year as a whole are to be realized. This requires that we not lower our guard in the slightest. The broad masses of rural cadres and people will have to continue to carry forward a work style of not fearing hard work and continued combat, continuing to work ceaselessly and unremittingly from a basis of victory in the struggle of "one resistance and two guarantees" to move ahead for both faster and better completion of the "three summer job" production tasks to lay a good foundation for a bumper agricultural harvest for the year as a whole.

There must be concentration of both forces and time for rush harvesting and rush threshing of wheat. This year the wheat encountered severe drought while it was growing, and most recently hot dry winds have blown continuously. The harvest will not have been easily gained and this fruit of labor is to be exceptionally treasured. Without any relaxation of late stage care, harvesting should be done on time, both harvesting and threshing should be done painstakingly, and the grains should be placed in storage. This year wheat growing area communes and brigades have promoted different forms of responsibility systems linking output to remuneration, and obvious changes have taken place in operating methods. In places that have practiced "both the fixing of outputs on a household basis and assumption of full responsibility for tax completion" in particular, production has greatly increased. All jurisdictions should focus on this new situation to make satisfactory arrangements for manpower, animal power, outdoor work spaces, and farm implements. They should encourage exchanges at parity and mutual cooperation. Production teams must particularly help the families of martyrs and servicemen and hardship household lacking manpower or animal power to overcome difficulties to harvest and thresh their wheat on time. They are to arouse and organize the masses to the procurement and maintenance of farm implements, and make the most of mechanized and semi-mechanized farm equipment in harvesting, hauling, and threshing. Strict attention should be given the selection and retention of seed wheat. Safety measures should be intensified during the summer harvest season, a good job done in fire prevention, robbery prevention, and guarding against mildewing during damp weather. The Provincial Meteorology Station forecasts several periods of hot dry winds at the end of May and in early June. All jurisdictions are to be sure to irrigate and spray with phosphate in an effort to reduce disaster damage to the minimum.

Every second must be made to count in doing summer planting. This year's summer sowing tasks are extremely heavy ones. It is understood from units concerned that, in addition to the more than 33 million mu of fields from which the wheat will have been harvested, that many places will be doing some summer sowing that could not be done in the spring. Meanwhile the drought continues, and an overwhelming majority of places will have to fight drought to do their sowing. This intensifies the formidable task of fulfilling summer sowing tasks. Consequently, all levels of leadership must make overall plans taking all factors into consideration and make comprehensive arrangements for harvesting and planting at the same time. They must carry out indoctrination of the broad masses of cadres and people on planned economy as the key, and they have to follow state planting plans for summer sowing. They must particularly take grain production very very firmly in hand. As a part of grain production, they must give very great attention to corn production. In past years corn production has accounted for about half of Hebei Province's grain output; it is a major element in grain production. If great reductions are made in the growing of corn, inevitably grain output in the province as a whole must suffer, and great hardships will result in providing for the livelihood of the people, for development of economic diversification, and particularly for development of livestock industry production. From a basis of guaranteed growing acreage, efforts must be made to increase corn yields per unit of area. A popular saying has it that "in

spring, it is the days that count; in summer it is the hours." Scientific experiments have shown that during the early June to late June period for planting summer corn, for each day's delay in planting, output decreases by 2.5 percent. Therefore it is necessary to make every effort to sow early and to adapt general methods to local situations to do more intercropping. At the same time quality of sowing must be given attention, special emphasis going to sensibly close planting, assuring a full stand, and such links. While devoting strenuous efforts to grain production, fulfillment of planting plans for oil-bearing crops should also be assured.

All possible should be done to provide good summer care. It must be realized that most of this year's spring sowing has been done through a fight against drought. The job of checking on seedlings, adding seedlings, and fighting drought to protect the seedlings is an extremely arduous one. Furthermore, the province's cotton growing area has been enlarged this year, and this has greatly added to the task of providing summer care. Therefore, each jurisdiction must place summer care in an extremely important position. Harvesting, planting, and care must all be given attention, and there must certainly cannot be any concern only for summer harvesting or summer planting to the neglect of summer care. Many year's practice has demonstrated that the major link in getting a good cotton harvest is a good job of caring for cotton seedlings during the summer harvest season. Before summer harvest begins, workforces have to be organized to promptly control insect pests on cotton, and watering done wherever conditions permit. Cultivating and hoeing should also be done. During the period of the "three summer jobs," it is also necessary to organize workforces, as possible, to strengthen intensive care of cotton. All communes and brigades are to organize workforces properly to provide good care for spring and summer sown crops to assure full stands of sturdy seedlings. In addition, attention must be given to both the fight against drought and guarding against waterlogging. Vigilance should be exercised against the possibility of great flooding following continuous drought. Preparations should be conscientiously made to prevent flooding and eliminate waterlogging.

During the period of "three summer jobs" production time is pressing and farm work is concentrated. All levels of leaders must take hold of "three summer jobs" production as an overriding central task. They should conscientiously change their work styles, and leadership cadres should provide a personal example for others. They should personally go into the frontlines of the "three summer jobs," to help paralyzed and semi-paralyzed grassroots level leadership teams reorganize, rally their spirits, shoulder work tasks of all kinds, further perfect production responsibility systems, solve real hardships in fighting drought to do the "three summer jobs," and assure smooth progress in fighting drought to do the "three summer jobs." They should repeatedly indoctrinate the broad masses of cadres and people in the "three concurrent concerns" [for the state, the collective, and individual commune members], do a good job of summer distributions, and assure smooth fulfillment of state purchase quotas, collective withholdings, and such tasks. Science and technology units should get science and technology into the myriad households, and all trades and industries should energetically support "three summer jobs" production, assure smooth progress in "three summer jobs" production, and resolutely struggle for a new bumper harvest in agriculture for the year as a whole.

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IMPROVISATIONS IN SPRING SOWING DURING CONTINUING DROUGHT

Shijiazhuang HEBEI RIBAO in Chinese 20 May 82 p 1

[Article: "Zhangjiakou Prefecture Adopts Various Ways To Fight Drought and Assure Spring Planting"]

[Text] The area without soil moisture or lacking soil moisture in Zhangjiakou Prefecture now amounts to 9.3 million mu or 66 percent of the total crop area. In order to assure sowing in a situation of serious drought, the broad masses of cadres and masses have summarized past experiences in fighting drought to do planting, and have adopted various methods for fighting drought and planting that have brought very good results. One is vigorous promotion of management systems of responsibility for pump wells, irrigation canals, and irrigation ditches to make full use of the effectiveness of all water conservancy facilities in the fight against drought. For irrigation area management personnel, well station pump operators and irrigated land specialized teams (or households) duties have been spelled out and rewards and penalties made binding, bringing about a remarkable increase in land watering efficiency and quality. Luanzhuang Commune in Zhuolu County has instituted a management system of "four centralizations" of centralized management, centralized irrigation, centralized collection of fees, and centralized apportionment of water for an expansion of the irrigated area. Second is hauling and carrying of water for pouring on spots for the dibbling of seeds into the soil. Right now 2,587 rubber tired carts, 19,000 people, and 2,187 water ladles were employed and used to draw water for the dibbling of 40,000 mu. Third is raking and rolling the ground to preserve soil moisture. Fourth is rush planting while soil moisture is still adequate to support growth, and taking advantage of what soil moisture exists to sow. The "three concentrations" method of concentration of workforces, and concentration of draft animals in a concentrated period of time was used in plots having some soil moisture for a concerted effort to rush plant. Some areas sowed directly on unplowed ground so that the soil would not lose moisture. Fifth was an increase in drought tolerant crops. Some communes and counties readjusted planting plans to increase the growing of drought tolerant crops. Seven production brigades in Huaiancheng Commune in Huaian County planted an average 1 to 2 mu of potatoes per household, the commune thereby increasing its potato acreage by a total of 2,030 mu.

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SOLUTIONS TO FARMING SUPPLY, EQUIPMENT SHORTAGES PROPOSED

Shijiazhuang HEBEI RIBAO in Chinese 28 May 82 p 1

[Article: "Large Lots of 'Three Summer Jobs' Materials Supplied to Rural Villages in a Steady Stream. Entire Provincial Supply and Marketing System Actively Organizes Sources of Supply and Sets Up More Retail Network Outlets"]

[Text] This year the supply of materials needed for "three summer jobs" production in Hebei province is more plentiful than in previous years. According to the statistics at the end of April, total value of means of production purchased for agricultural production throughout the province had increased by 32.2 percent over last year, and sale had increased by 13.2 percent. Right now large lots of "three summer jobs" materials are being steadily supplied in a continuous stream to the frontlines of agriculture.

Before the arrival of the "three summer jobs," supply and marketing cooperatives at all levels throughout the province transferred large groups of cadres, staff and workers to form inspection teams that went into communes, brigades, and commune member households to check on market changes to understand requirements for the "three summer jobs." Supply and marketing cooperatives in Handan, Jingtai, Shijiazhuang, Gangzhou, Baoding, Hengshui, and Tangshan prefectures acted in consequence of new changes this year in supplies of the means of production stemming from the serious drought, and following in the wake of the practice of production responsibility systems. They used every possible means to organize sources of supply so that quantities would be ample, varieties would be complete, and market needs would be satisfied. In Shijiazhuang Prefecture, supply and marketing cooperative system supplies of misting devices dusters, and winnowing boards [2554 6253 2647] are more than double amounts available last year, and supplies of manpower-operated vehicles, sickles, wooden forks, and sacks have more than doubled.

In order to supplement the insufficient sources of supply, while buying needs from elsewhere, all jurisdictions are also carrying out a diligent search of warehouses and are running materials exchange facilities. Gangzhou and Handan prefectures have had more than 20 materials exchanges and have transferred more than 4 million yuan worth of materials used in the "three summer

jobs, bringing peasants together with large quantities of three "summer jobs" materials such as plows, seed drills, buckets, shallow baskets, winnowing fans, and buckets made of plaited willow twigs.

In the process of supplying "three summer jobs" materials, numerous grass-roots communes set up more retail network outlets, lengthened their hours of business, cannibalized things for spare parts to sell, classified goods offered for sale, sent goods into the countryside, and such services to accommodate purchases by the masses. Supply and marketing cooperatives in each of the counties of Jingtai Prefecture organized more than 340 small teams to render support to agriculture. They sent to production teams and commune members more than 2.37 million yuan worth of "three summer jobs" materials. Supply and marketing cooperatives in each of the counties of Cangzhou Prefecture organized repair teams for 52 small dryers and 70 iron and wooden farm implements which they recycled back into the countryside to serve the masses.

#### Postscript

"In spring it is the days that count; in summer it is the hours." Supplies of the means of agricultural production must meet "three summer jobs" production requirements, and every second counts if the farming season is not to be missed. This year a serious drought situation exists in most of the provinces' prefectures; diseases and insect pests of farm crops have begun earlier than in former years and cover a wide area; the task of summer harvesting, fighting drought and eliminating insect pests is a large one and time is short; and quantities of supplies needed to do the "three summer jobs" are large and the time in which they are needed concentrated. Rural commercial units should fully understand this new situation and these new changes, and genuinely strengthen leadership of "three summer jobs" material supply work.

The key to doing a good job of "three summer jobs" supply work lies in organization of sources of the supply of goods. Right now the varieties and sources of supply of materials needed for the "three summer jobs" such as chemical fertilizer, pesticides, and equipment to apply pesticides are ample for the most part. However, sources of supply of some things such as winnowing boards, "huolu" hoeing boards, carts drawn by manpower, bamboo poles, coin mats, some medium and small farm implements, and highly effective pesticides of low residual toxicity are inadequate. All levels of supply and marketing cooperatives are to take positive action and use every available means to organize sources of supply. Materials for which allocations are provided in plan should be promptly shipped out to the countryside. For goods outside of plan active organization of purchases from elsewhere should be made. In addition, warehouses should be inventoried and various forms of materials exchange activities carried out to open channels and to get goods that are surplus in one place to places where shortages exist. Communes and brigades should be actively organized to make those medium and small size farm implements that are strongly regional in character. This year the state increased quotas of lumber for use in making medium and small farm implements. All jurisdictions should conscientiously institute these quotas and use the materials for the purpose intended. Supply and marketing units should intensify

procurement and provide supplies promptly. Highly effective pesticides of low residual toxicity for which sources of supply are inadequate should be emphasized, and the use of mixtures of pesticides or substitutes should be vigorously promoted to ameliorate the conflict between supply and demand and effectiveness of insect eradication. As far as supply methods are concerned, supply outwork networks should be increased, hours of operation lengthened, quantity requirements for retail sales relaxed, goods sent to the countryside, and purchases, sales, and repairs made part of a single process to bring the work of supporting agriculture right into the fields.

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CSO: 4007/450



SAFE, EFFICIENT USE OF FARM MACHINES STRESSED

Shijiazhuang HEBEI RIBAO in Chinese 22 May 82 p 1

[Interview with comrade-in-charge of Farm Machinery Management Bureau by HEBEI RIBAO reporter: "Perfect Farm Machinery Responsibility Systems and Make the Most of Farm Machinery Benefits"; date and place not specified]

[Text] Question: What new situations and new problems do farm machinery operations face in the "three summer jobs" [planting, harvesting, and field care] this year?

Answer: This year the role of farm machinery in doing the "three summer jobs" may be characterized in three ways as follows: One is the serious drought situation. Many areas want to harvest and thresh their wheat with one hand while fighting drought, doing summer planting, and providing summer care with the other. Time is short and much work has to be done. Full use must be made of the advantages that agricultural machinery provides, manpower, machines, and draft animals each playing a part. Second is the increase in production teams practicing systems of responsibility whereby output quotas are fixed on a household basis and whereby households assume full responsibility for task completion, the division of the land into small plots, dispersed operations, and many commune members harvesting and threshing alone. This poses new problems for farm machinery operations. Third, because some communes and brigades that practice responsibility systems whereby output quotas are fixed on a household basis and households assume full responsibility for task completion have not handled well the relationship between centralization and contracting full responsibility, a general decline has occurred in the state of farm implement technology. At the same time, in many communes a combination of commune member households or individual households have purchased some farm machinery. Consequently, in order to do a good job of machine operations this year in the "three summer jobs," deepgoing and meticulous ideological work and preparatory work in all phases of farm machinery operations will have to be done.

Question: In bringing into play the role of existing farm machinery in the "three summer jobs," why is it necessary to begin with promotion and perfection of farm machinery management systems of responsibility? How should farm machinery management systems of responsibility be perfected?



Answer: The "three summer jobs" are strongly seasonal. Time is short and farm work is concentrated. Practice has shown that whenever systems of responsibility are practiced, machine operators have a strong sense of responsibility; breakdowns are few; consumption is low; efficiency is high; the pace of work is fast, and production is done safely. Consequently, in order to make full use of the role of existing farm machinery in "three summer jobs" production, it is necessary to start with the promotion and perfection of farm machinery management responsibility systems. All farm implements involved in the "three summer jobs," including tractors, diesel engines, harvesters, and threshers should have permanent machine operators with assigned duties, fixed responsibilities, and a clear cut system of bonuses and penalties. No matter the form of responsibility system for tractors, during the period of the "three summer jobs," they are to be subordinated, without exception, to agricultural production, and to centralized allocation by production brigades and production teams. In the case of brigades that practice centralized management and centralized use of farm machinery, operating plans should be formulated promptly to allocated machines to jobs making overall arrangements for each and every task that has to be done. Arrangements should be made for machine cutting, hauling, threshing, removal of stubble from the fields, plowing and sowing in continuous operations as the wheat ripens to hasten the pace of production. Where communes and brigades have distributed farm implements to individual households, ideological work has to be done and the farm implements taken back as soon as possible and put under collective management so that all commune members can enjoy their benefits. In communes and brigades practicing the fixing of output quotas based on households and assumption of full responsibility for task completion by households, organization should be emphasized with the emphasis on individual households or combinations of households doing a good job of machine harvesting and threshing. Machine harvesting should be extensively used in one place after another in turn. When harvesting is done on one plot, another plot should be harvested. Households can also draw numbers for their turn at harvesting, one household after another being served. Alternatively machine harvesting of plots, quotas, amount of time, and remuneration may be contracted to machinery operators, the operators being responsible for completing a certain amount of work in a certain period of time. Each household can prepare a threshing ground alongside fields and take a number to determine their turn. They may join together with other households of their own free will, or individual households can do their threshing alone. As soon as one household's threshing is finished, the machines will move on to thresh at another household. Alternatively, centralized threshing grounds may be set up, regular operators used, and workforces organized, or else specialized teams may be organized, taking numbers to determine order served with threshing being down at one household after another. In addition, farm implements managed by individual households should also be organized to join in the "three summer jobs" following the principle of mutual help for mutual benefit, equitable fee standards being worked out, and making sure that the fees are not overly high.

Question: During the period of the "three summer jobs," what is to be done about farm implement repair and farm implement spare part supplies?

Answer: Counties, communes, and production brigades should organize personnel to gain a clear understanding of basic data about farm machinery overhauls, minor repairs, maintenance, and associated equipment for use in connection with repairs to be done during the "three summer jobs," and they should set up plans for repairs. They should make use of the role of farm machinery repair organizations in counties, communes, and brigades, and they should set the kinds of machines to be repaired, the repair hours, the quality of repairs for personnel making the repairs. Before going into operation, inspection of machines should be organized, inspections and repairs to be finished before the end of May.

For the supply of farm implements and spare parts needed to do the "three summer jobs," all levels of farm machine supply units should organize forces and conduct user surveys and market forecasting to actively organize sources of supply on the bases of the needs of the masses to assure supply. Grassroots level farm machinery marketing points should issue supplies night and day and organize the shipment of machines and parts to the countryside.

Question: Peasants urgently demand to study farm machinery technology, so how can all levels of farm machinery units do an effective job of technical promotion and technical service during the "three summer jobs?"

Answer: All levels of farm machinery units certainly should devote a lot of energy to the effective technical training in farm machinery to meet needs of the season in the "three summer jobs." Training emphasis should be on small tractor operators, harvesting machine operators, diesel machine operators, and mechanics. Various means such as sending training right to people's doors, sending training down to the countryside, training in increments, using meetings to take the place of training, and training on the job while repairing should be done to do an effective job of training and to satisfy the demands of the broad masses of people for training in farm machinery technology. In addition, an effective job of promoting technology and providing technical services has to be done. Prefecture and county farm machinery repair and manufacturing plants should transfer technical forces into the fields to teach technology at field side and to repair farm implements, receiving equitable remuneration for efforts. Repair service in shops should also be improved so that machines are repaired whenever they are brought in. Farm machinery supply units should concern themselves both with sales and with installations, technical training and supply of spare parts, genuinely sharing peasant concerns and supplying peasant needs, supplying them on time, and providing full service.

Additionally, attention should be paid to using farm machinery safely in doing the "three summer jobs." Before beginning the "three summer jobs, all counties, communes, and brigades should make a full inspection of the technical condition of farm implements and of fire prevention equipment. In working with farm machines, the "three not permitteds" should be strictly adhered to, namely,

not permitted to use in production any farm implements that have not been inspected or that did not pass inspection; not permitted to use in production any tractors or diesel engines the exhausts of which have not been fitted with a fire protection flap or with fire protection flaps in good condition or any threshing machines not fully equipped with safety devices; and not permitted to use threshing grounds lacking fire prevention measures (such as a source of water, water vats etc). Directions or operations that violate regulations should be resolutely halted, and all levels of safety supervisors should intensify inspections and supervision in order to prevent conflagrations and accidents involving people and farm implements.

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CSO: 4007/452

## BRIEFS

SOIL EROSION--Communes and brigades in Songhuajiang Prefecture, Heilongjiang Province, have paid greater attention to water and soil conservation. Efforts to comprehensively tackle soil erosion have resulted in increased farm output. Some 11 counties in the area have set up one after another organizations in charge of water and soil conservation. Five communes in Shangzhi County planted 370,000 mu of tress this spring aimed at soil erosion. A commune in Bin County has annually harnessed an average of 100,000 mu of land plagued by soil erosion in the past few years. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 10 Jul 82 SK]

DONGBEI FORESTRY COLLEGE--Dongbei Forestry College, in Heilongjiang Province, observed the 30th anniversary of its founding on 10 July. One of the forestry colleges founded immediately after liberation, this school has turned out over 10,000 graduates for the national forestry front. (Dong Zhiyong), vice minister of forestry and an alumnus of the college; Liu Da, president of Qinghua University and former president of the college; Li Jianbai, secretary of the provincial CCP committee; and deputy governor Li Rui attended activities marking the anniversary. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 10 Jul 82 SK]

ZHAODONG COUNTY DROUGHT--Some 2.65 million mu of fields--87 percent of the total cultivated land in Heilongjiang Province's Zhaodong County--have been plagued by a serious drought. To ensure the growth of crop seedlings, leaders of the county have gone down to rural areas to help peasants in creating moisture and topdressing. Now some 140,000 people are turning out to combat drought every day. Including the 300,000 mu of fields which had been irrigated already, the county will irrigate 1.05 million mu of fields--50 percent of total grain and soybean fields--in the next 15 days. [SK101239 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 9 Jul 82 SK]

RAINFALL REPORT--Recently the northern and eastern parts of Heilongjiang Province in general experienced moderate or heavy rain and light rain in some areas. The drought has become less serious. The provincial government urged all localities to take advantage of the opportune time after rain to strengthen field management, speed up weeding, plowing and soil banking work and replant crops on the land where crops grow badly. The provincial government urged efforts to guard against flood and insect pests after a long drought in order to reap a bumper harvest in 1982. [SK160408 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 14[remaining source missing] According to weather

reports, all localities in Heilongjiang Province had 1-day rainfall--from 0500 10 July to 0500 11 July. Heihe and Daxinganling prefectures enjoyed a 30-50 mm heavy rainfall. Suihua and Mudanjiang prefectures had a 10-20 mm rainfall. Most other localities had 5-10 mm rainfall. Rainfall continues in some localities. After this rainfall, the drought in northern Heilongjiang has become less serious. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 11 Jul 82 SK]

ARTIFICIAL RAINFALL--Around 0400 [2000 GMT] 13 July, four artificial rain stations in Harbin municipality, Heilongjiang Province, simultaneously fired 268 artillery shells to make artificial rainfall, ranging from 6 to 10 mm. About 300,000 mu of land benefited. The drought has been erased thanks to the artificial rainfall. [SK150005 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 13 Jul 82 SK] The Shenyang PLA units have approved on two occasions the use of militia's 22 pieces of artillery by Hejiang, Yichun and Nenjiang prefectures in Heilongjiang Province in operations for making artificial rainfall. On 13 June Yichun Prefecture carried out four rations involving four pieces of artillery and had over 40 mm of rain. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 10 Jul 82 SK]

ANTIDROUGHT ELECTRICITY--Power departments throughout Heilongjiang Province have spared no efforts to support antidrought work. Since 12 June, they have generated 940,000 kwh more electricity each day to support the antidrought work. Ten percent of all electricity generated by the (Xibu) power grid have been used in this regard. On 8 July the provincial power bureau supplied 300,000 kwh of electricity to Anda, Mingshui, Qinggang and five other counties where the ravages of drought are most serious. In addition, power supply for industrial and urban use has decreased. Fifteen antidrought service groups have been sent to help disaster areas solve power consumption problems. [SK080649 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 7 Jul 82 SK]

CSO: 4007/480

## HUBEI

### BRIEFS

RAPESEED PRODUCTION INCREASE--It is estimated that Hubei Province's total output of rapeseed this year will be 5.88 million dan, some 30 percent more than last year. More than 95 percent of the 1.28 million mu of rape in Huanggang Prefecture, an old rape production area in the province, will be guaranteed a good harvest and the average per-mu yield will be 122 jin, 6 jin more than last year. Over the past few years, Jingzhou Prefecture has developed rape production relatively quickly. This prefecture has now expanded its rape-sown areas to 1.4 million mu and its per-mu yield will increase to some 80 jin. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 11 Jun 82 HK]

CSO: 4007/480

## BRIEFS

POISON-ABSORBING CLAY--Nanjing, 15 Jul (XINHUA)--A large deposit of (ao-tu-bang-shi clay) [ao tu bang shi zhang tu 0425 0424 2761 4258 4724 0960] has been discovered in northern part of Jiangsu Province. It is of high grade, good quality and enormous economic value. This mineral deposit was discovered by the prospectors of the Jiangsu Provincial Geological Bureau. The lumpy bluish-gray clay is a good industrial decolorant. With the ability to absorb poisonous gases and poisonous substance, it can counteract the effects of the highly poisonous and cancer-causing aflatoxin. The experiments conducted by the geological and grain departments of Jiangsu Province show that the aflatoxin contained in peanut oil, rapeseed oil, cottonseed oil, soybean oil and other edible oils can be basically absorbed by the (ao-tu-bang-shi clay) if they are treated with it. Other poisonous substances, such as insecticides and chemical fertilizers, contained in the oils can also be eliminated. At present, the clay with this poison-absorbing characteristic has been used by some countries in military equipment and for protection against radioactivity. In addition, the (ao-tu-bang-shi clay) is also of great value to offshore oil exploration, environmental protection and solar energy storage. [Text] [OW151454 Beijing XINHUA Domestic Service in Chinese 0008 GMT 15 Jul 82]

JIANGSU COUNTY CROPS--Wuxian County, Jiangsu Province, has reaped an all-round bumper harvest of summer grain and edible oil. The total output of summer grain was 100 million jin over 1981 while the total rapeseed output increased by more than 60 percent over the same period of 1981. As of 20 June, some 122 million jin of wheat had been delivered to granaries, or 94 percent of the delivery plan. The delivery task for rapeseeds has already been overfulfilled. Luhe County, Jiangsu Province, has reaped its first bumper summer harvest since implementation of the production responsibility system. The county's total wheat output exceeded 200 million jin for the first time, or nearly 60 percent more than in the same 1981 period. The output of rapeseeds increased 70 percent over the same period last year. [OW250859 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 1 Jul 82 OW]

SUMMER GRAIN--Nanjing, 20 Jun (XINHUA)--Jiangsu has basically finished threshing its barley, naked barley and wheat. Their total output is expected to exceed 16 billion jin, an increase of 1.5 billion jin over last year. The province planted these crops on some 36 million mu. [OW211225 Beijing XINHUA Domestic Service in Chinese 0729 GMT 20 Jun 82 OW]

CSO: 4007/480

JIANGXI

BRIEFS

RELIEF SUPPLY--Commercial units in Jiangxi Province have been busy sending relief to flood-afflicted areas. By 23 June, they had provided these areas with some 1.47-million-yuan worth of goods, including daily necessities and materials required for emergency repair work. [OW041346 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 24 Jun 82 OW]

CSO: 4007/480



## LIAONING

### BRIEFS

FARM, SIDELINE PRODUCTS--Thanks to a good harvest last year, peasants in Liaoning Province were able to sell more farm and sideline products to supply and marketing cooperatives. The total value of the farm and sideline products purchased by supply and marketing cooperatives in the province during the January-May period was 9.1 percent more than in the corresponding 1981 period. Cotton, hemp, tobacco and dry and fresh fruits increased by 24 percent, grain and oil purchased at negotiated prices increased by 30 percent and vegetables, meat, eggs and poultry increased by 78 to 100 percent. [SK040745 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 3 Jul 82 SK]

SAVINGS DEPOSITS--According to statistics compiled at the end of June this year, the savings deposits of the urban and rural population throughout Liaoning Province totaled 2.62 billion yuan, an increase of 360 million yuan over that at the end of 1981. In addition, over 80 percent of total savings deposits was fixed deposit. [Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 14 Jul 82 SK]

CSO: 4007/480

BRIEFS

WOOL OUTPUT--Nei Monggol Autonomous Region has again reaped a bumper harvest of sheel wool this year. According to statistics compiled at the end of June, the region procured over 69 million jin of sheep wool. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 9 Jul 82 SK]

GUYANG COUNTY WOOL PROCUREMENT--As of the end of June, Guyang County, Nei Monggol region, had marketed to the state 1.23 million jin of wool, an increase of 130,000 jin over the corresponding 1981 period. Of this, 960,000 jin was wool of fine-breed sheep. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 12 Jul 82 SK]

PRODUCTION PROGRESS--Owing to successful enforcement of production responsibility systems, rural areas throughout Nei Monggol Autonomous Region increased farming and tree-planting acreages in drawing up production plans early this year. As of now, they have successfully implemented their plans and achieved sound growth of crops and trees. Under their plans, they remained unchanged in their farming acreage of grain and soybean crops as compared with that of 1981's and increased the farming acreage of cash crops. They planted over 4.38 million mu of trees in the spring, scoring a one-third increase over the figure of 1981. Over 28 million trees were planted. They also have achieved rapid progress in developing a diversified economy. [SK102258 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 9 Jul 82 SK]

FISH BASE--The Water Conservancy and Power Ministry and the Ministry of Finance have allocated on two occasions in 1982 some 2 million yuan to help Nei Monggol region build reservoirs to develop a marketable fish base. Nei Monggol's reservoir fish raising covers 690,000 mu of water surface. Authorities say that Nei Monggol has good prospects for developing reservoir fish raising and will yield quick economic returns. [SK112200 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 10 Jul 82 SK]

COMBATTING DROUGHT--Jirem League in Nei Monggol Autonomous Region has spared no efforts to combat drought. Since spring the league has suffered a serious drought rarely seen for many years. At present, some 75 percent of cultivated land in the league is seriously affected by drought. Over 110,000 mu of seedlings in Horqin Zhoyi Zhong Banner have withered. Some 300,000 mu of

artificially cultivated quality grass in the league are beginning to turn yellow, posing a threat to livestock production. The league has put into service 5,000 motor-pump wells and has irrigated over 500,000 mu of farmland. [SK092206 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 8 Jul 82 SK]

LIVESTOCK BREEDING--Ergun Right Banner in Nei Monggol Region has had good results with livestock breeding in 1982 despite the serious drought. Livestock in the banner numbered 184,100 head by 30 June. The survival rate of young animals this year was 91.77 percent and that of grown animals 97.64 percent, topping the previous peak. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 18 Jul 82 SK]

GOAT WOOL OUTPUT--Production of white goat wool produced by areas on Erlongshan Mountain, Bayannur League, Nei Monggol Autonomous Region, has been good in 1982. As of the end of June, the league procured more than 443,000 jin of white goat wool, over a 190,000 jin increase over the corresponding 1981 period. As of now, there are more than 1 million white goats being raised on Erlongshan Mountain. Per goat wool output has increased from 4-5 liang in the past to 5-6 liang in 1982. The league's procurement of white goat wool is expected to be over 600,000 jin. [SK191232 Hohhot Nei Monggol Regional Service in Mandarin [no date given]]

RAINFALL REPORT--On 15 and 16 July, areas in eastern Nei Monggol enjoyed rainfall in varying degrees. Horqin Youyi Qian Banner, Tuquan County and Horqin Youyi Zhong Banner in Xingan League had over 30 mu rainfall. Horqin Zhoyi Zhong Banner, Horqin Zhoyi Hou Banner, Hure Banner and Naiman Banner in Jirem League had an over 20 mu rainfall. Tongliao municipality had an over 50 mu rainfall. All of this rainfall contributes to relieving the drought in these areas. [SK190009 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 17 Jul 82 SK]

CSO: 4007/480

SPRING SOWING REPORTEDLY UNDERWAY DESPITE CONTINUING DROUGHT

Beijing ZHONGGUO NONGMIN BAO in Chinese 27 May 82 p 1

[Article: "Fight Against Drought By Dibbling Seeds for On-Time Spring Sowing. In Yantai Prefecture 1.4 Million People Pitch In"]

[Text] The broad masses of cadres in Yantai Prefecture, Shandong Province have feverishly mobilized, spared no effort in fighting drought, and have devoted efforts to timely spring sowing.

For 5 consecutive years, Yantai Prefecture has been stricken with drought, and weather reports forecast a continued lack of rain this year. In the prefecture today almost 6,000 large and small streams have virtually ceased to flow, almost 10,000 ponds have dried up; more than half of the large reservoirs have been exhausted; the water table has dropped 6 to 8 meters; and throughout the prefecture drinking water is a problem for 1.39 million people and livestock.

Prefecture party and government leaders have given extraordinary continuous attention to the fight against drought. As long ago as right after the harvest last fall the Prefecture CCP Committee took firmly in hand deployments in the fight against drought. Subsequently they issued a call throughout all counties to "get rid of your illusions and make up your mind to struggle against drought for a long time." Last winter and this spring a workforce of 400,000 people was continually maintained in the frontline of water conservancy construction throughout the prefecture where they built 16,700 water conservancy projects. On 21 April, the Prefecture CCP Committee again convened a meeting of commune, county, and prefecture cadres for further mobilization to fight against drought to assure spring sowing.

Now, a total of more than 10,000 cadres from the commune, county, and prefecture levels have gone into the frontlines to direct the fight against drought. All trades and industries, and local garrison forces, are also lending vigorous support to the fight against drought. Right now a total of 1.4 million people have pitched in throughout the prefecture to haul water, to carry water on shoulder poles, and to carry water on poles supported by two people so that seeds can be dibbled and rush planting done. Throughout the province 5,639 motor vehicles, 40,334 tractors, 25,000 horsecarts, and 322,644 hand tractors have been committed to the fight against drought to do spring sowing. As of mid-May, sowing had been completed on 50 percent of the spring sown crop area.

In order to be prepared against peril and to reduce losses resulting from drought insofar as possible, the Prefecture CCP Committee has also proposed several supplemental rescue measures as follows: 1. suitable increase in the growing of drought resistant potato seedlings to be held in readiness for supplemental planting; 2. nurturing of corn seedlings in pots of enriched earth in preparation for transplanting; 3. harvesting of early ripening peanut seeds in preparation for replanting or supplementary planting.

In Huan and Penglai counties, 40 millimeters of rainfall has somewhat relieved the drought situation, but for the prefecture as a whole, in most areas the drought situation continues serious.

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CSO: 4007/450

## SHANDONG

### BRIEFS

**YANGGU COUNTY WHEAT HARVEST**--In Shandong, Yanggu County reaped a bumper harvest this year despite the drought. Per-mu yield of the county's 350,000 mu of wheat is 460 jin, an increase of 103 jin over that of 1981. [SK230620 Jinan Shandong Provincial Service in Mandarin 2300 GMT 22 Jun 82 SK]

**WHEAT PROCUREMENT**--Cao County, Shandong Province, had overfulfilled the state summer grains procurement plan by 40 percent, an increase of 130 percent in the procurement of wheat over 1981. Zou and Cangshan counties had also overfulfilled the wheat procurement plans, selling 33 million and 23 million jin of wheat to the state respectively as of 21 June. [SK250758 Jinan Shandong Provincial Service in Mandarin 2300 GMT 24 Jun 82 SK]

**GRAIN PROCUREMENT**--As of 10 July, Shandong Province had overfulfilled the summer grain procurement task. More than 2,603,000,000 jin of summer grain has been put in storage, despite a reduction in summer grain output caused by the serious drought. The quality and quantity of grain are up to state standards. At present, among 13 prefectures and municipalities, 8 prefectures and municipalities, including Taian, Zaozhuang, Zibo, Yantai, Huimin, Dezhou, Linyi and Heze, have fulfilled or overfulfilled the summer grain procurement task. The other five are going to accomplish the task. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 14 Jul 82 SK]

**MOUNTAINOUS AREAS DEVELOPED**--Rizhao County in Shandong Province is enthusiastically developing barren mountains and beaches. At the beginning of 1982, Rizhao County CCP Committee organized a planned group to survey all mountains and rivers in the county. To fully arouse the enthusiasm of the masses to develop mountainous areas, party organizations at all levels have strengthened leadership, set up responsibility systems and conscientiously carried out policies. In the first 6 months of this year, the county leveled 70,000 mu of hilly land, repaired 1,500 li of road, afforested 21,800 mu and planted 765,000 fruit trees. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 8 Jul 82 SK]

**RAINY-SEASON AFFORESTATION**--Shandong Province has made proper preparations for the rainy-season afforestation work. Tree-planting activities have been conducted in succession. To date, the province has afforested 15,000 mu of land during the rainy season, leveled 30,000 mu of mountainous land, dug 700,000 holes for planting trees, raised 11,100 mu of saplings and built 897 li of mountain-spiraling roads. [SK220412 Jinan Shandong Provincial Service in Mandarin 2300 GMT 21 Jul 82 SK]

GAOTANG COUNTY WHEAT HARVEST--Gaotang County in Shandong Province has reaped a bumper harvest on 250,000 mu of wheatfields this year. Being discontented with this, the county adopts measures to strive for another bumper harvest in autumn crops. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 21 Jul 82 SK]

CSO: 4007/480

## SHANGHAI

### BRIEFS

SHANGHAI SUMMER HARVEST--Peasants on the outskirts of Shanghai have reaped a bumper harvest of summer-ripening crops. Total output from some 2 million mu of wheat, barley and naked barley amounts to 990 million jin, up 3.3 percent compared with last year. Output of rapeseeds from more than 940,000 mu of rape fields totals 2.84 million dan, hitting an all-time high. [Shanghai City Service in Mandarin 1130 GMT 24 Jun 82 OW]

CSO: 4007/480



SHANXI

BRIEFS

SUMMER GRAIN BUMPER HARVEST--Shanxi Province reaped a bumper harvest of summer grain with a total output reaching more than 3.69 billion jin, an increase of 10.14 percent. Wheat is Shanxi's major summer grain. Due to the various responsibility production systems popularly carried out in different locations and the enthusiasm mobilized among the masses, the damage done in natural disasters was greatly minimized. Yuncheng Prefecture, a major wheat producing area, has set the record this year in total output of wheat. [Beijing RENMIN RIBAO 18 Jul 82 p 1]

CSO: 4007/492

SICHUAN

TAN CHILONG URGES EXPANDING FORESTRY

OW030846 Beijing XINHUA in English 0728 GMT 3 Jul 82

[Text] Beijing, 3 Jul(XINHUA)--Tan Qilong, first Sichuan provincial party secretary, says in today's PEOPLE'S DAILY that protection and expansion of forestry are vital to the struggle against poverty in northern Sichuan.

He has just returned from a tour of more than 20 northern counties in the mountains and river heads of the province.

Wherever conditions permit, he said, private plots of mountain slopes should increase, and hillsides and open space unsuitable for collective management should be allocated to peasants for tree-planting. And these trees will forever belong to them, though the land is owned by the rural collective units, the paper says.

Mindful of the need for steady increases in grain yields, he said reclaimed mountain slopes should be distributed amongst peasant households and specialized groups with contracts for tree planting.

Since January, the paper says, the governor and vice-governors have also toured mountainous areas in other parts of Sichuan and, as a result, formulated policies for the area.

The party will allocate almost 200,000 tons of grain for grain deficient production teams in these regions until 1990, while counties in the province's mountain regions will assume sole responsibility for their own grain production, exercising independent financial accounting for successive five-year terms, the paper says.

CSO: 4020/148

## SICHUAN

### BRIEFS

IRRIGATION SYSTEM--Chengdu, 14 Jul (XINHUA)--A central control system is being built for the Dujiangyan irrigation zone, an old irrigation facility in Sichuan Province. The first stage of the two-stage project has been completed after 4 years of construction. Automatic controls have been added to seven regulators on the trunk canals and to the intake gates on Dongfeng Canal and Renmin Canal. Remote controls for sluice gates and electric water level indicators have been installed. [OW181816 Beijing XINHUA Domestic Service in Chinese 0017 GMT 14 Jul 82 OW]

CSO: 4007/480

## FIRST SECRETARY ADDRESSES REGIONAL MEETING

OW041158 Beijing Domestic Service in Mandarin 1200 GMT 29 Jun 82

[Text] Yin Fatang, first secretary of the Xizang Autonomous Regional CCP Committee, recently addressed a regional meeting on the work in rural and pastoral areas. He said: The party has in the main completed the task of eliminating the confused and establishing the correct guiding thought for the work in rural and pastoral areas. The political situation is stable and the situation of production is excellent in the region.

Comrade Yin Fatang outlined five major changes in the rural and pastoral areas of Xizang:

1. The implementation of more flexible policies to enliven the economy has enabled the peasants and herdsmen to ease their burdens and build up their strength;
2. Politically, we have adopted a series of measures conducive to stability and unity, further implemented the party's policies concerning nationalities affairs, religions, the united front work and the cadres and completed in the main the task of correcting cases of injustice and solving the questions left over from history;
3. The system of responsibility in production of various forms has been implemented by 99 percent of the production teams in the region;
4. In the course of economic readjustment, the production of agriculture and animal husbandry has kept a steady growth, with 1981 grain output topping planned target by 2 percent and the 1981 total output values of agriculture, animal husbandry and sideline undertakings up 8 percent, 14 percent and 13.9 percent respectively from 1980; and
5. The livelihood of peasants and herdsmen has remarkably improved, with 1981 per capita income in the region amounting to 200 yuan and per capita consumption of grain, meat and oil approximating 500 jin, 50 jin and 8 jin respectively. As a result of government efforts to help poor families, more than 2,000 families with more than 220,000 persons [as heard] have begun to shake off poverty and difficulties. They account for 70 percent of those accepting the assistance.

CSO: 4007/480

XIZANG

BRIEFS

FISHERY PRODUCTION--Lhasa, 15 Jul (XINHUA)--Tibetans, most of whom had never tasted any fish until late 1950s, have begun to develop fishery production by exploiting the rich resources of their region. Recent statistics released by the autonomous region show that 56 fresh water fishing teams have been set up in 18 counties of the region, reporting an annual catch of 200 tons. Tibet has a water surface area of 2.76 million hectares. Because fish here used to be regarded as "god," for years, the rich fish resources remained untouched, and almost no Tibetan liked to eat or catch them. As a result the fish in many of the rivers and lakes are so dense that a catch can be counted in tons. Tibetans have developed a taste for the nutritious food, with fresh fish available in local markets. Fish dishes can often be seen on family tables and some fish is used as animal feed. The regional people's government has helped the Tibetans organizing fishing teams, invited experts to teach them fishing techniques and supported them with fishing facilities. In the past few months, 140 sets of fishing facilities bought from inland provinces have been given free to the fishing teams. In addition, a number of fishing boats, drying machines and cold storage units are scheduled to be sent to the region next winter and spring. [Text] [OWL61145 Beijing XINHUA in English 1231 GMT 15 Jul 82 OW]

CSO: 4020/148

YUNNAN

BRIEFS

LEADERS PLANT TREES--Today responsible comrades of Yunnan Province and Kunming municipality and some 10,000 armymen and people in the municipality went to barren mountains in the suburbs of the municipality to plant 100,000 saplings. Those taking part in afforestation today included Li Qiming, Sun Yuting, Li Xingwang, Zhang Yun, Yu Lanfu, (Yuan Yiquan), (Wu Shengmin), Lin Chao, (Wang Chun), (He Bo) and Zhu Kui, responsible comrades of the party and the government in the province and municipality and responsible persons of the provincial CPPCC committee; and Zha Yusheng, Huang Demao, Zhang Haitang, (Hu Guohua), He Ronggui and Shi Jingban, responsible persons of the Kunming PLA units. [HK060802 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 1 Jul 82 HK]

CSO: 4007/480

## ZHEJIANG

### BRIEFS

SUMMER GRAIN PROCUREMENT--As of 20 June, 530.38 million jin of spring grain had been procured from Zhejiang Province. This was 6.08 percent more than the state's preset target. [Hangzhou Zhejiang Provincial Service in Mandarin 1030 GMT 23 Jun 82 OW]

CSO: 4007/480

## Engineering

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TITLE: "Control Scheme for Distillation Column and Energy Consumption"

SOURCE: Shenyang XINXI YU KONGZHI [INFORMATION AND CONTROL] in Chinese No 2, 1982  
pp 12-19

TEXT OF ENGLISH ABSTRACT: This paper, using new distillation column energy consumption formulas and characteristic diagram, discusses and evaluates several ordinary control schemes from both steady state and dynamic energy consumption points of view. Through experimental studies and digital simulation, we have fully proved that our method is very useful in the evaluation and development of energy saving control schemes for distillation columns.

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TITLE: "A New Approach to Synchronization in Telemetric Systems"

SOURCE: Shenyang XINXI YU KONGZHI [INFORMATION AND CONTROL] in Chinese No 2, 1982  
pp 20-27

TEXT OF ENGLISH ABSTRACT: In order to accomplish bit synchronization, the conventional technique in telemetric systems is to use the same frame synchronization codes derived from the control station. But this is not an ideal technique in practice. After a comparison of several typical design ideas, it is concluded that a better choice is the method of "frame information carried by synchronization codes with information codes carrying bit information," which has been practiced in the Intel 8273 HDLC/SDLC controller as a typical example.

However, NRZ<sub>1</sub> codes used in the 8273 controller have some inherent drawbacks in carrying bit information. In our approach, instead of the NRZ<sub>1</sub> code system we have used the Miller Code System, the full advantage of which has long been enjoyed in magnetic recording techniques.



[Continuation of XINXI YU KONGZHI No 2, 1982 pp 20-27]

The author has designed the encoding and decoding logic in terms of the Miller Code System. The resulting circuitry is quite simple and those drawbacks inherent in the 8273 controller have been eliminated. It seems that this new approach will also be advantageous to similar designs other than those in telemetric systems.

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TITLE: "Coal Economization and Automatic Control of Industrial Boiler Burning Processes"

SOURCE: Shenyang XINXI YU KONGZHI [INFORMATION AND CONTROL] in Chinese No 2, 1982 pp 56-59

TEXT OF ENGLISH ABSTRACT: Based on an analysis of  $\alpha$  control and dynamic match, this paper reveals the mechanism of coal economization in automatic control of boiler burning processes. Several actual examples are described that have already reaped economic advantage, and the current state of coal economization in automation of industrial coal burning boilers is reviewed.

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CSO: 4009/344

## Machinery

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TITLE: "A Microcomputer Program for the Processing of Electrometric Data of  
Agricultural Machinery"

SOURCE: Beijing NONGYE JIXIE XUEBAO [TRANSACTIONS OF THE CHINESE SOCIETY OF  
AGRICULTURAL MACHINERY] in Chinese No 2, 1982 pp 81-92

TEXT OF ENGLISH ABSTRACT: An electrometric data processing system for agricultural  
machinery has been designed. The core of this system is a Z-80 microcomputer.  
Both BASIC and assembly language are used for system programming. Sampling the  
electrometric data signals (analog signals or pulse signals) recorded on a seven-  
track magnetic tape, this program calculates the various elementary statistics  
and the rotational speed of the machinery. The results can be displayed on the CRT  
or printed. The curves of the probability density and the probability distribution  
can be displayed on an oscilloscope or recorded by a plotter.

9717

CSO: 4011/160

END